EDITORIAL
DOMESTIC ENGINEERING

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## THE PURPOSE OF YOUR WINDOW.

THE show window can only indicate the nature of the contractor himself and his ideas of the business in which he is engaged, but it does this most forcibly. The other day the writer passed a plumbing shop with a window showing a bath tub and closet that have been out of date a decade or more. In addition they were dust covered, as was everything else in the window. What purpose do these fixtures serve. They serve about the same purpose and get about the same results as a card in a newspaper or other advertising medium reading, "Frank J. Smith—Out of date plumbing—workmanship rather indifferent."

The only person who would call such a plumber would be someone who was in desperate need of a plumber's service, and either knew no others or was unable to obtain their services, or, to be more charitable, someone who knew that the advertisement was not a true indication of the character of his work.

There are, of course, a number of plumbing and heating contractors who feel that they are so well known that it is not necessary for them to advertise either through newspapers and similar mediums or through effective displays in their windows, but these men lose sight of a very important business fact and that is that modern business depends for success to a great extent on its ability to create a desire that does not already exist or to develop a partly formed desire into a definite decision to buy. That is what an advertisement should do and that also is what the plumbing and heating contractor's window and showroom display should do. There would be few automobiles, phonographs, or similar goods sold today if the manufacturers and dealers in those things had left it up to the public to come in and ask for them.

The home owner or the prospective home builder who passes a plumbing and heating establishment without any display or with a haphazard display of antiquated, dust covered, unattractively arranged goods does not develop a desire for a better class of plumbing and heating goods than he already possesses or has planned to have, whereas, if he passes an establishment with a display of the latest and best that the trade offered, arranged in a manner to make a genuine appeal, he might not only decide to buy something considerably better than he had first planned, but the chances are that he might see something that he had not expected to use at all and decide to add it.

Unless your window does more than announce that you are in the plumbing and heating business, it not only fails to bring you much profitable business which it otherwise might do, but robs the whole industry of business that rightfully belongs to it, and does not do its share toward fixing in the mind of the general public the fact that the plumbing and heating contractor is a business man rather than a tradesman. Let your window do its share toward educating the public and building up your own business.

## PLAIN DIET FOR BUSINESS.

IN A Wisconsin city lives a man who a number of years ago lost his entire fortune. Hard work and clear thinking had built it up for him, but when he became real prosperous he forgot the principles on which his success had been built. He began to dissipate, to squander money, and to make reckless investments, with the result that in a short time he had not only lost every dollar, but had also greatly impaired his health. Today, however, he is again well-to-do and his health is excellent. Concerning his change in health and financial status, he said, "Losing my money was the best thing in the world for me, as it taught me that there are two things essential to happiness, work and health, and that the latter is somewhat dependent upon the former. Unless the mind is busy with something constructive and useful, it will develop into a force that is destructive to mind and body alike. When I lost my money, I not only had to go to work, but I was obliged to eat plain food and keep regular hours, which eventually restored my health."

The principles that apply to the success of the individual generally apply to business as a whole. Clear thinking and hard work are absolutely essential to sound constructive business. They are the forces that have built up American industry to where it is today. But for a time these things were lost sight of, and somewhat of a collapse took place. In fact, business ruined its health with abnormal profits, short hours, and reckless spending. A plain bread and milk diet may be a little hard to take after being accustomed to sumptuous and costly dinners, but it is quite necessary in order that the patient may recover his health and vigor. Business has been living on a bread and milk diet for some time and is now beginning to show signs of renewed vigor, and in fact is enjoying a little dessert, but the plain fare of hard constructive work, full time, moderate profits, and straight thinking is going to make up the bill-of-fare for a while yet, but at that they are not so hard to take. It is chiefly a matter of getting accustomed to them again, and the quicker we do the sounder and more prosperous will be our business, and the better it will be for all.

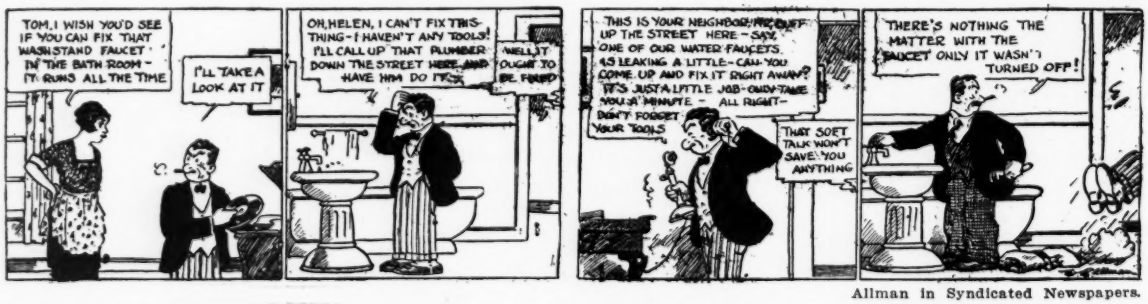
# WHEN *the* JOKE BEGINS *to* TURN

## *The "Pipe Lines" Man Points Out How Jokesmiths Are Beginning to Help the Plumber Instead of Hinder Him*

*By* A. W. B.

IN SCANNING the newspapers and magazines of the country I see the professional jokesmiths are undergoing a change of heart. You may have noticed it. And I'm sure you will agree with me when I say it is about time—that the change has been slow in coming—that it is long overdue.

For something like the allotted three score and ten years the plumber has suffered the "slings and arrows" of misguided humorists and cartoonists. He has been the butt of


TOM, I WISH YOU'D SEE IF YOU CAN FIX THAT WASHSTAND FAUCET IN THE BATH ROOM - IT RUNS ALL THE TIME
I'LL TAKE A LOOK AT IT
OH, HELEN, I CAN'T FIX THIS THING - I HAVEN'T ANY TOOLS! I'LL CALL UP THAT PLUMBER DOWN THE STREET HERE AND HAVE HIM DO IT
WELL, IT OUGHT TO BE FIXED
THIS IS YOUR NEIGHBOR, MR. DUFF UP THE STREET HERE - SAY, ONE OF OUR WATER FAUCETS IS LEAKING A LITTLE - CAN YOU COME UP AND FIX IT RIGHT AWAY? IT'S JUST A LITTLE JOB - ONLY TAKE YOU A MINUTE - ALL RIGHT - DON'T FORGET YOUR TOOLS
THAT SOFT TALK WON'T SAVE YOU ANYTHING
THERE'S NOTHING THE MATTER WITH THE FAUCET ONLY IT WASN'T TURNED OFF!

Allman in Syndicated Newspapers.

to laughing at a business, and it's about the same as giving a dog a bad name. The dog may reform—may become one of the best dogs in town—but nobody will believe it.

The plumber is a good sport. If he were not he would not have taken the quips and quirks so good-naturedly for so many years. Of course, when a joke hit him, he didn't like it. But he smiled, did the plumber, and went on "sawing wood," as we say in these days when there is precious little wood to saw. He might have hit back, but that would have encouraged the jokesmiths to go after him all the harder. They say everything comes to him who waits. I don't know about that, but I do know the plumber has been waiting patiently. And at last he is about to receive his reward by being recognized for what he is, and not for what he is not.

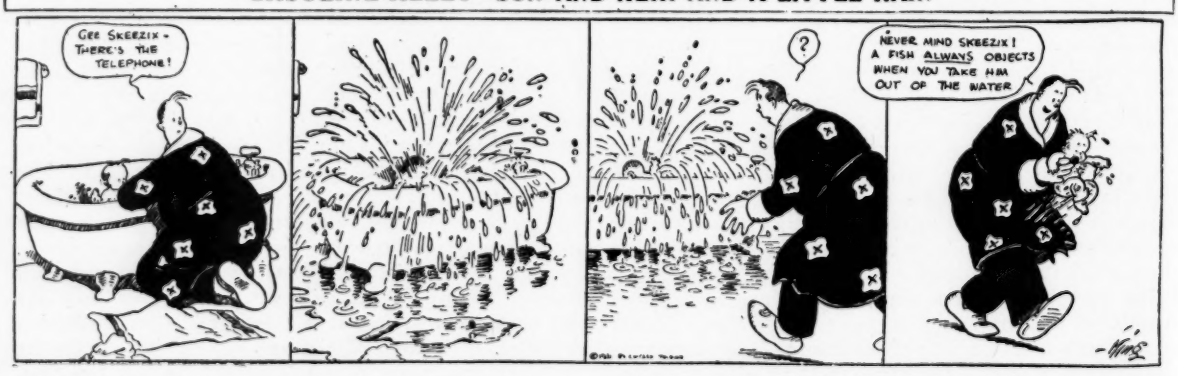
their jokes long enough. The change is welcome, and, if the first jokes and jibes are samples of what are to follow, the change will be for the good of plumbing.

Just why or how the jokesmiths happened to pick on the plumber is hard to say. Back in the early days of plumbing there may have been a reason. I don't know. For the life of me I can't see why a plumber ever looked or acted any funnier than a carpenter or a decorator or a roofing contractor. But, I suppose, one of the punsters who made our grandfathers laugh, started the wheeze wheezing, and it has been wheezing ever since. Jokes, like property, are handed down from jokesmith to jokesmith. And once the jokes are turned on a business and people begin to laugh, they are made to keep on laughing. You know jokes never die. The older they are, the stronger they are. Once get the public

### The Right Change To Come.

The change had to come some time, and it is as refreshing as a cool shower on a hot day. If the fun makers now go as far in the right way as they have been going in the wrong way, the change will mark a new era in the industry of plumbing. In another year or two the National Association of Master Plumbers may elect the jokesmiths to honorary membership because of honorable service, and, at the same time, retire the ancient jokes to a home for feeble wheezes.

**GASOLINE ALLEY—SON AND HEIR AND A LITTLE RAIN**




By Frank King. Reproduced by courtesy of "The Chicago Tribune."

But speaking seriously, which I have been doing all the time, I think I know a few of the reasons for the change. The Bath a Day idea has worked its way into the press of the country; better health has gripped the public mind; sanitation is a recognized science; own your own home carries

Goldberg in "The Chicago American."

with it plumbing and heating; the agitation of various associations and organizations is being noticed; the industry is constantly increasing its newspaper and magazine advertising. These things are not funny—they're serious. They touch life at its vital points. And so, in recognizing bathing and sanitation as necessary aids to our well-being, the press is compelled to recognize the plumber as one of the important factors in their development.

If the foregoing argument is true, and I think it is, the journalistic powers have whispered to the humorists and cartoonists to forget the jokes about the plumber. It is pretty hard for a jokesmith to forget the old "bread-winners." It is a good deal like a mother forgetting her child. In giving the plumber a rest, the joke makers may turn to some of the other old ones—for instance, the one about the mother-in-law who came on a visit twice a year and stayed six months each time—or the one about the man who had a wart on the back of his neck and used it for a collar button.

The men who make a serious business of making fun are quick to give an old idea a new angle. And that is what is being done with the jokes about the plumber. They are old jokes in new clothes. But the new clothes turn the smiles the other way around, and this is good for plumbing and heating. One of these new angles upholds the plumber and his work and pokes fun at the public; the other angle boldly champions all that the plumber represents. This is being done in cartoons, and in jokes and stories. And it is going further. The necessity and convenience of a bathroom, or the right kind of a kitchen sink, or the advantages of a good laundry, or the best heating plant—all of which represent the plumber—are having a serious inning in the "movies" and occasionally bob up in the spoken drama.

**A Bath a Day Play.**

The other night I went to see "The Broken Wing," a popular melodrama now showing in the best theatres. Maybe you have seen it.

Well, the scene of the play is the other side of the Rio Grande. The heroine, half American and half Mexican, turns out to be a disciple of a Bath-a-Day. I don't think she wears a button, but she would if somebody gave her one. A big Mexican wants to marry her. She laughs at him—tells him that she won't consider marriage with any man who doesn't have a complete bathroom in his home. Immediately he wires a Chicago mail order house for equipment. That was the only bad spot in the play. I told the management how wrong it was, and they may have changed the equipment order by this time. Anyway, the Mexican has a bathroom installed. Then he tells the heroine he is ready for the wedding, and that she can bathe to her heart's content, or words to that effect. But what does she do? I applauded her speech, and so would you. She says—speaking to the Mexican, you know—she says, "If you had a dozen bathrooms you wouldn't use one of them. I take a bath every day, and so why should I marry a man who doesn't bathe at all. Not much. You will always be a Mexican, because you do not bathe. No!" she exclaimed, "I shall marry a gringo—an American—for he bathes and keeps clean."

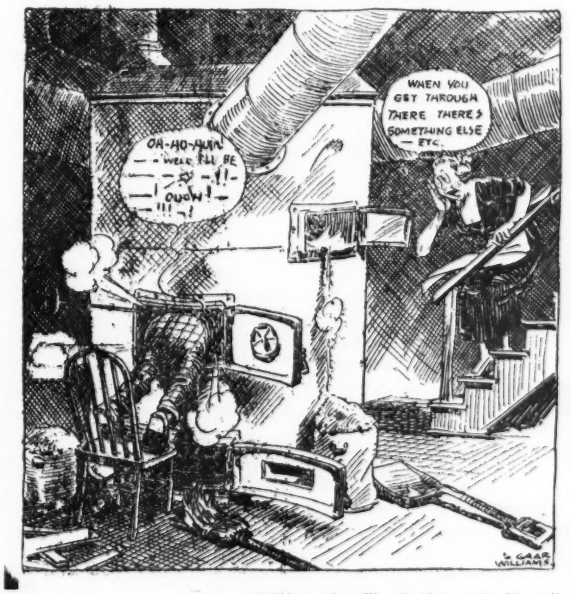
If that isn't good Bath-a-Day propaganda then I don't know propaganda when I meet it.

As I listened to "The Broken Wing" I thought of another popular play of the long ago. Some of you older plumbing and heating men may remember it. It was called "A Tin Soldier"—a stinging satire on plumbing and plumbers. The plumber was represented as a lazy loafer whose chief business in life was to knock holes in walls, break up furniture and destroy domestic peace generally.

Truly, there has been a change. And such changes as are seen in plays, in motion pictures, in cartoons, and in jokes and stories, are educating the public along the right line, and this education is of untold value to plumbing and heating.

A business can be laughed to success or to failure. It all depends upon the angle of the word or the picture which creates the laughter. The Ford was laughed to success.

THE UNEMPLOYMENT PROBLEM TAKEN UP LOCALLY




Williams in "The Indianapolis News."

The "hunk o' tin" literature created laughter, but it did not sting. And a joke that is minus a stinger is good for any business. It is the stingless variety that is now showing itself in the plumbing field.

Let us hope we have a shower of the stingless, boosting kind of jokes. Nothing could be better for the business.

(Continued on Page 564.)

# KINKS *for* STEAM FITTERS

## *Simple Methods for Solving Several Puzzling Problems*

**How to Adjust a Hot Water Heating System After Its Installation.**

Hot water heating, especially where the system is a large one and the piping complicated, calls for great judgment and skill in the size of pipe connections and the manner of making up the connections at the point of branching the mains, and at the junction of two or more radiator connections. A radiator which, if large should be favored, may on account of proximity to the boiler, or its position on the riser, be cut down in size. A mistake which leads to the return water coming back into the return main too hot will short-circuit and spoil the whole job. A method which will permit adjustment after the work is installed is shown in Fig. 1. This consists in placing a steam pattern angle valve, with small hole drilled in the disc, and having the stem surrounded by a shield. This may be placed at either end of the radiator. At the opposite end, the usual type of quarter-turn hot-water pattern radiator valve is placed.

When the system is tested the lock-shield valve is set by means of a key so that the required amount of water passes with the hot water radiator valve at the opposite end wide open. The lock-shield valve is thereafter not disturbed. The

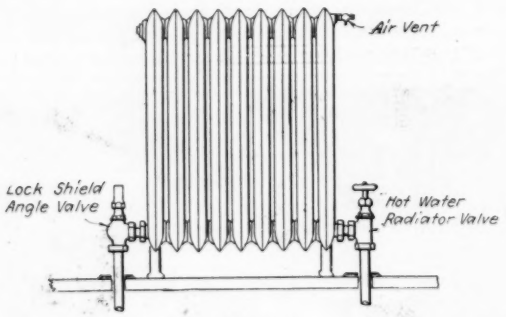



**Fig. 1.**

circulation to suit the room requirements is controlled from the opposite end. A perfect balance may be had by this method, and in cases where work is already installed and one or more radiators giving trouble, an expensive pipe change may be avoided by removing the union elbow and installing a valve in this manner with the added assurance that permanently correct results will be secured.

**Controlling Circulation in Hot Water Heating Systems by Means of Gate Valves.**

Where gate valves are placed on branch mains on hot water heating work, and especially in the forced circulation type of water heating, the circulation may be controlled and balanced by means of these gate valves. An objection to doing so, however, lies in the fact that whenever it becomes necessary to shut the line off, the system is again out of balance when the valve is re-opened. The valve stem may be marked, or the number of turns counted, but this is rather crude and unsatisfactory.

A better method is shown in Fig. 2. This makes use of an additional gate valve. This added gate valve has the wheel removed, and a jam-nut, furnished by the valve manufacturer, placed on the stem. When the system is tested, both valves are opened widely, and valve No. 2 gradually closed with a wrench until the desired result is secured; the jam-nut is then turned into place so as to hold the valve-stem securely in position.

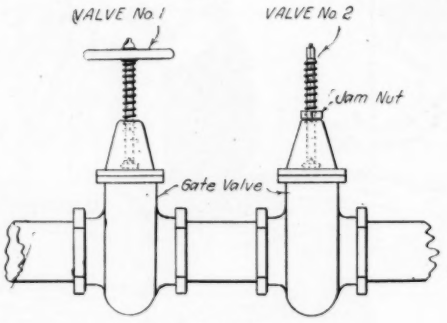



**Fig. 2.**

**Means for the Disposal of Air from Vacuum Heating Systems.**

Vacuum systems of heating, where the same pump which pulls the vacuum also pumps the water into the boiler, must have means to dispose of the air. This is usually accomplished by using an air trap at the top of the discharge column, or if the system is a large one, by the use of a tank with a float control mechanism.

Where such a device is used, it is the usual practice to place gate valve on each line leading to, and from, the tank,

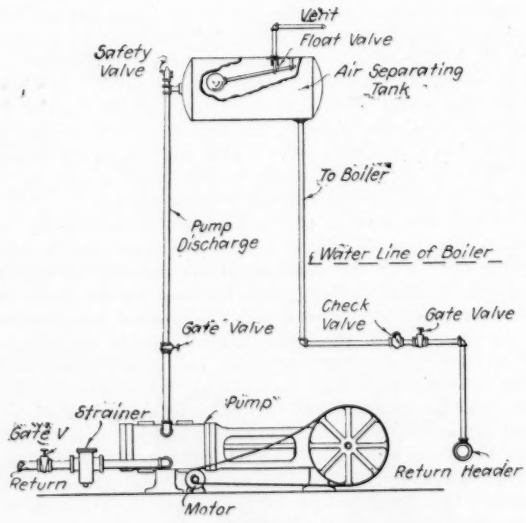



**Fig. 3.**

so that access may be had for examination and repairs. The floats in these tanks are usually made to withstand considerable pressure. At a plant where such an installation was made, the valve on the discharge to the boiler was accidentally closed while the pump was in operation. It hap-

pened that the pump was a large one with ample motor power, and sufficient pressure was generated in the tank to burst it with very considerable force. When a new tank was placed in position, it was furnished with a safety valve at the top of the pump discharge column as shown in Fig. 3.

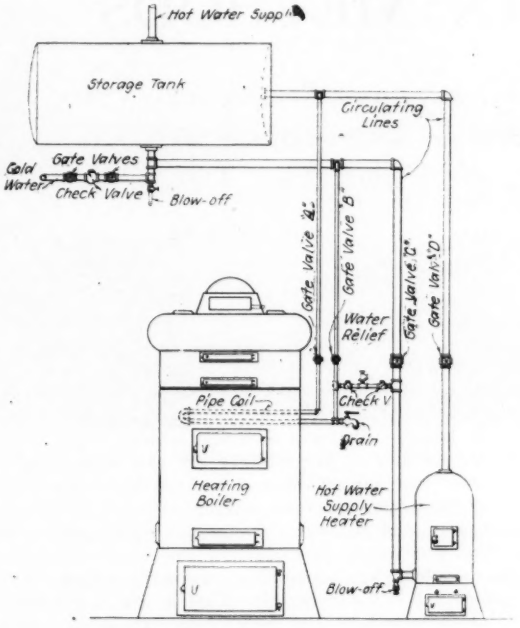



Fig. 4.

**Where Relief Valves should be Used.**

Where valves are used on pipe coils furnishing domestic hot water supply, or where used on an auxiliary hot water heater, there is always danger of these valves being closed accidentally. The resultant explosion from this cause may be very disastrous. Wherever valves are so used, or where a check valve any place in the installation is so placed as to prevent the expansion of water in the system, a relief valve should be provided.

Fig. 4 illustrates a system where a heating coil is used, and also a hot-water supply heater. By means of two check valves which permit expansion from either direction, while at the same time preventing water passing from one system to the other, one relief valve serves both sides.

This particular layout is of especial interest on account of the provision for blowing out sediment from either system, making use of the full pressure of the system to do so. This is done as follows: When the coil is being blown off, valve "B" is closed, valve "A" remaining open; the drain cock is then opened and the full pressure passes through the coil; the drain is closed when sufficiently blown through, and valve "B" opened. The valves are on the branches to permit closing off, should the coil break or burn out; closing the valve allows the rest of the installation to be in use while repairs are being made. The hot water supply heater is flushed out in a similar manner, by the closing of valve "C." A detail of the check valve and water relief connection is shown in Fig. 5.

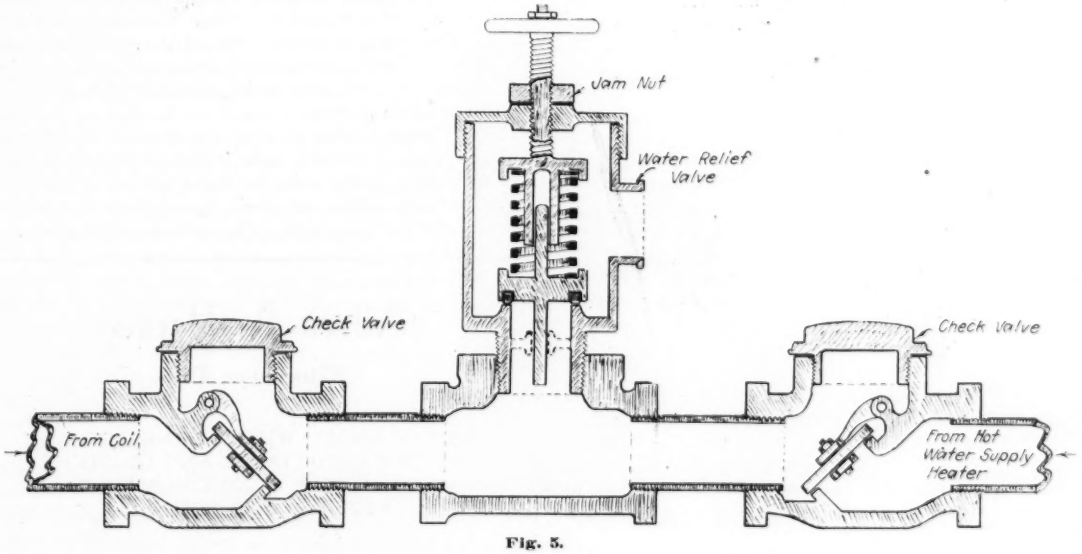



Fig. 5.

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**Exports from the United States** in November totaled $295,500,000 against $67,528,311 in November last year, the Department of Commerce has announced. Imports totaled $211,300,000 compared with $21,209,055 for the period of last year.

For the 11 months ended November the exports totaled $4,191,246,358 against $5,507,729,533 for same period last year. Imports for the 11 months aggregated $2,272,070,209, compared with $5,012,424,047 for the 11 months last year.

**The net operating income** of the class 1 railroads for October will prove to be about 5.4 per cent of their total valuation, it was indicated recently. The returns of 199 lines, out of 202 reporting, showed a net revenue of $105,000,000. At the Bureau of Railway Economics, it was stated that the final report probably would show net earnings slightly in excess of $105,000,000 as the roads, which are to file their reports, are not among the major carriers.

**Germany's foreign trade** for October showed a sharp increase compared with the previous month, according to cables received by the Department of Commerce. Imports for October were estimated at 3,000,000 metric tons, valued at 13,900,000,000 paper marks against 2,500,000 metric tons, valued at 10,668,000,000 paper marks in September. Total exports for October amounted to 1,970,000 metric tons, valued at 9,700,000,000 paper marks, compared with 1,870,000 metric tons in September valued at 5,519,000,000 paper marks. Among imports for October a great increase was shown in agricultural products, which amounted to a value of 9,800,000,000 marks as compared with 5,519,000,000 marks in September.

# A Prosperous Plumbing Business Built *on* Modern Methods

*Clever Advertising, Letters to Customers and Prospective Customers, and Mental Alertness Responsible for Success of Alfred A. Dorsey, of Wilmington, Del.*

*By* Walter E. Mair

**Alfred A. Dorsey.**

UNDER the Weather,' that flat-footed phrase used for years to describe illness, accounts in good measure for the health of one of the livest plumbing businesses in the city. For Alfred A. Dorsey, master plumber, sees to it that a timely little reader runs "Under the Weather" on Page 1 of certain newspapers here, every day. Through an expenditure last year of less than $500 he made this and like alert advertising matter increase his volume of business about $14,000. When he rebuilds his office and shop on Orange Street next Spring he is going to tie up his location with his advertising by erecting an electric sign six feet high. In the mining industry you can keep a good man down, but you can't keep Dorsey off the roof-tops.

It is perhaps wrong to attribute all, or even the most of the success of Alfred A. Dorsey, master plumber, to his "Under the Weather" ads, which have far and away the best position, from a psychological angle, that a plumbing ad could have. The reason is Dorsey, and the ad is merely a measure of the Dorsey ideal, which is to give 'em service all the time, and let 'em never forget that you are doing it. Going farther back than that, one finds that there are a quintette of young Dorseys, "five good reasons why a master plumber should keep busy," as their dad puts it. That may be only a side-light and yet they furnish a wonderful incentive for success. In fact, they just make it necessary.

"I long ago made up my mind," said Mr. Dorsey, "that it is no use waiting for business to come to you. People don't put in water heaters, shower baths, new tubs, sinks or lighting systems until they want to. The thing to do is to make them want to. And after that, the thing to do is to make them want a good one, which will serve them better in the end and add to your sales total. I don't aim to make money on what I do for people, but on what I sell to them.

"To give you an instance. I have the contract for putting baths into the country house of some well-to-do people near here. I carry little stock in my shop, for I have all the advantages of the wholesale show-rooms nearby, and can eliminate the expense of having an elaborate display in lines carried by the wholesaler. The lady of the manor came to Wilmington. I made up my mind to show her what kind of bath equipment she was getting under her contract.

"We motored around to the show room, and I casually remarked to her 'There is the type of bath that will be put into your house,' She was a typical woman buyer. She looked around and in five minutes she saw something so much better that she was bound to have it. 'How much more will those tubs cost?' she asked.

"I told her, and the difference in price was quite a bit more than you would have thought she would pay. She probably wouldn't have ordered so expensive equipment the first shot. But she sold herself. That is one of my methods of doing business. Let them educate themselves as to what is desirable. I have sold a number of showers by using 'Domestic Engineering's' 'bath a day' idea. I keep a car at the office all day and when a prospect inquires for plumbing equipment I call for him or her, visit the showrooms and the residence or store or establishment, as the case may be, and let them get the idea that the best is none too good.

"Sticking an ad in the papers now and then and getting out your bills on scrap paper isn't elevating the plumbing and heating business. Domestic engineering is all that the terms imply, and I believe in putting it on a plane with the highest class retail business. For instance, when a customer makes a remittance to me, I don't just send a receipted bill. I have a card that looks different, and that causes them to keep me in mind.

"Also, I make a point of using the dealer helps offered by manufacturers. Take this little leaflet advertising a certain line of supplies. They write me that I am one of a very few in this vicinity asking for their co-operation, but they offered it, and I'm getting it. They get out the leaflet, and I got together the copy. The copy for this one is based on various ideas occurring to me in the course of my work and from the service angle particularly."

Alfred A. Dorsey

Wilmington, Del.

ACKNOWLEDGES WITH THANKS RECEIPT OF YOUR REMITTANCE AND TRUSTS HE MAY RECEIVE A CONTINUANCE OF YOUR VALUED BUSINESS

The copy for this little leaflet is printed in bold, clear type, the leaflet being four by six, folded once, and mailed

direct to a select list of prospects, old customers and new names chosen from the local telephone directory. Here is the way it is headed:

**"Something to Know About Plumbing."**

And the copy under it is straight away, to the point. "Here is a way in which you can save money. When a leak develops in your home, or a faucet needs repairing, try to find out, before you call us, the exact nature of the work to be done.

**"We used to fit out 300 Houses a Month for DuPont with a Gang of 30 Men."**

"The sizes and shapes of piping, joints and elbows vary in each home. It is hard to tell, from the brief information gained in a hurried phone call, just what the nature of the trouble is.

"Sometimes we are able to make the necessary repairs without having to procure special parts. Generally, however, we have to send back to our store for fittings which we would have brought with us had we known the exact nature of the work to be done. One unacquainted with the plumbing business cannot always explain just what is needed. But the more complete the information which you give us before we call, the better prepared we shall be to make the necessary repair. This will save not only our time but your money.

"Customers find our repair work neat, satisfactory and permanent, and our prices fair.

"Call on us when anything goes wrong."

On the back page of the leaflet is an illustration of one of the finest lavatories, and more simple, direct selling talk on the article itself, a selling talk for which the institutional advertising preceding has favorably prepared the reader's mind.

"I take space in the telephone directory," said Mr. Dorsey, "and by so doing get my name inserted under half a dozen different classifications in the classified section. That gives me six times as many chances to do business with a prospective customer as I would have, if I were listed only as a plumbing and heating contractor. I do not believe in advertising on the program of charity affairs and the like, or buying tickets to them for advertising purposes. The results are negligible."

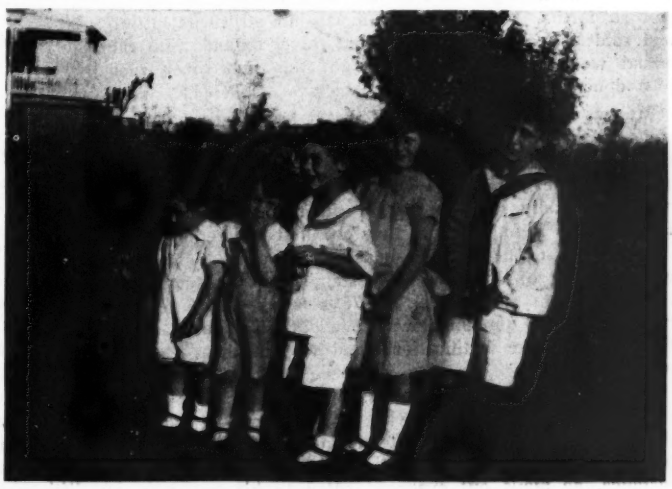
Unique, however, in both an advertising and a service sense, is Dorsey's rolling plumbing shop, which is a large auto van painted green, with yellow sign on its sides: Alfred A. Dorsey—Service Truck. Plumbing and Heating." His telephone number is there, and this ambulant first aid wagon for worried housewives does a continuous business.

"I figured that there was no use of putting a neat little copper plate on this truck," says Mr. Dorsey. "Alfred A. Dorsey, and nothing else, might be neat and refined, but they might think I was a florist or an undertaker or a house-mover. John Wanamaker doesn't hesitate to put his name all over the sides of his delivery wagons and vans, and why shouldn't I do the same? I wanted Wilmington to know who I was and why I was in business and that I furnished quick service by automobile on plumbing and heating repair jobs. I think the truck provides service for the consumer and advertising for me in a combination hard to beat.

The Dorsey instinct for efficiency, which was developed as we shall see presently, is carried out in every detail of repair work and installation. "I don't let my plumbers go down to the basement to cut a pipe when I can help it," he says. "I have a complete repair shop in that auto van, and one of the items of equipment is a tripod for pipe cutting that is satisfactory for all ordinary residence or office work. They set that tripod right up in the bathroom or lavatory where the work is being done and save all the running up and downstairs which is usually the case with plumbers."

That is one item in Mr. Dorsey's methods. He is a thorough plumber. He began in Wilmington working for $2 a week with John Bryson, now retired and eighty years old or thereabouts. John Bryson tried a young man out for a month, and if he hadn't conscientiously earned his $8 in that month, he was gently, but firmly ushered out into the realm of apprentice might-have-beens. Obviously Mr. Dorsey stuck. John Bryson's "Ecole des Beaux Arts de Plomberie et Chauffage," or whatever you call plumbing and heating in French was to him a home, and he finally obeyed the Greeley injunction and went West to prove it.

Among other things, he went to work in charge of installations for an Ohio lighting specialty factory and although he left this concern, after a long and satisfactory connection, he still gets all its business in the Wilmington territory. Which means, in the concrete, that the House of Dorsey operates as far south as Virginia and west into Pennsylvania putting in lighting plants at $5 a light. The profit is not negligible, and here again Mr. Dorsey's magic way of showing folks the folly of not "doing it up" in capital shape has often given him fat dividends. Once a lighting plant of this type is installed, every additional burner is "easy money."



**Five Reasons why Alfred A. Dorsey keeps busy.**

But the big items to the credit of the Dorsey account,

and which probably lie at the cornerstone of the foundation of his present success are the jobs he did for the DuPonts in the giddy cost-plus days of the war. Working under one John B. Dunbar, who was general foreman, his principal task for months and months was getting bathrooms, lavatories and toilets into the houses that sprang up like mushrooms in the war-workers' communities.

Take Carney's Point, for instance, where lived thousands of employees, including chemists, office help, administrative experts, and just plain "goin' to glory" powder-mixers, who lived on the edge of explosive eternity throughout the war. "Our orders in those days were to get things done," remarks Mr. Dorsey reminiscently. "It was not easy to get the railroads to haul bathtubs and lavatories when demurrage was out of sight and all the rolling stock in

**"We piled Bath-tubs around the Building like Fortifications."**

sight was commandeered for hauling munitions, food and supplies for the men in France. I remember very well one afternoon in the middle of the week when we were told we had to have baths in a certain group of houses by Saturday night, for a bunch of chemists that were coming down. We had to do it, that was all, and we did it.

"Instead of cutting installations for one house at a time, we put up a sample house, and then cut everything alike. We had one man put on bath tub legs, another the spigots and so forth. I made the plumbers do all their cutting and soldering at one time to avoid travel to and from the actual work. In that way we got this and other rush jobs done.

"It was during this war work that I learned the value of standardizing operations and of motor truck transportation for short hauls. I am using motor trucks now to get goods on the job that I want in a hurry. Forty-eight hours is usually sufficient to get things on the jobs from Philadelphia, from the time they are first ordered.

"We used to fit out 300 houses a month for DuPont, with a gang of 30 men. We stepped up production in this way from six a week to 75 a week and cut costs from $80 to $18 on bungalows. We piled bath-tubs around the buildings like fortifications, and we put them up over night."

Which goes in part to explain why Mr. Dorsey is one of those men who advertise, who play up service, who sell the customer more than he intended to buy. Used to doing business extensively, he is not passing up any details. For instance, he mails out every so often to his customers a blank with a place for checking off classes of repairs or replacements needed. This covers the bathroom, furnace, lavatory and toilet installations. It is a return postcard, and it brings in as many as thirty new customers every time it goes out after them.

When there is occasion to write a letter, it goes out on good bond stationery, too, and the printing thereon tells what Dorsey has to sell. "None of this 'Alfred A. Dorsey—Plumbing and Heating—At Your Service,' printed on a cloud or a wreath of roses or something like that," says this up-to-date plumber.

"I've put on without crowding nearly everything that's in my line. You will notice I even put in railings.

"Now, that doesn't sound like a regular plumber's line, but I looked around and saw that there were plenty of basement shops, also residences and stores that used railings. Bent pipe railings are handy and easily put up, and I've got quite a lot of business in this one class by itself."

To sum up the reason for the success of the Dorsey business is the fact that, "the Dorsey brain is usually working." Therefore, so is the Dorsey service and the Dorsey bookkeeper on the side of the ledger which looks most cheerful to a plumber around January 1.

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**The Shipping Board** has filed an official statement with the Senate showing that it had available on September 30 a total of $78,830,252.16 with which to meet its outstanding indebtedness. At the same time it faced 3,368 unpaid claims amounting to $291,633,271.39, which claims had not been investigated and the validity of these remain undetermined.

**An increase of 4.4 per cent** in the number of persons employed in the large manufacturing establishments of Rhode Island during November is indicated in records supplied by George H. Webb, commissioner of labor, Rhode Island. The largest gain is shown in the metal trades. During October employment increased 6.3 per cent.

**It has been learned** in Detroit that Henry Ford's next creation will be the "air flivver." Intimations that the Ford Motor Company intended to manufacture airplanes for commercial use became more positive as a result of a conference between Ford, Rear Admiral Sims and Thomas A. Edison. Rear Admiral Sims believes the airplane is the most important thing ever developed by man.

**Nearly three-quarters** of the fatal elevator accidents could be prevented if elevators and shaftway doors were equipped with well-designed interlocking devices, a survey and study conducted by the Bureau of Standards of the Department of Commerce has shown. About as many ride on elevators as on all the city traction lines. In providing vertical transportation, an elevator in the Woolworth Building travels about 40 miles a day and makes 4,000 stops in that time.

**Seventy-five million dollars** became available as Federal aid for road construction in the various states under the Federal Highway Act, recently signed by President Harding. In addition, $15,000,000 was appropriated for national forest roads. The $75,000,000 represents the Federal Government's appropriations to the work of building highways in the various states and must be matched, dollar for dollar, by funds from the state treasury, except in states where more than 5 per cent of the area is unappropriated public land. The $75,000,000 appropriated is for the fiscal year ending June 30, 1922, and $25,000,000 of the sum is available immediately, the balance becoming available on January 1, 1922.

**Substantial reductions** not only in surtax rates on individual incomes but also in corporation income taxes and in the rates applying on estates are recommended by Secretary of the Treasury Mellon in his annual report. The secretary is not seeking immediate action in view of the recent enactment of a revised revenue law, but presents his views as to a further lifting of the tax burdens which should take place in the not distant future. To meet the loss of revenue which would result from Secretary Mellon's proposal he suggests either "a tax on certain specific articles or a low rate general tax on a broad class of articles or transactions." This recommendation indicates a leaning toward some sort of a general sales tax, which he has not heretofore favored.

# A Hot Water Heating System *with* Mains Reversed *in* Relation *to* Each Other

*By* James Mackay

IN THE design of a hot water heating system, where the mains are reversed in relation to each other, to bring about a balance in the distance traveled by the water in the system, naturally the first consideration is given to bringing about as perfect a balance as possible. The best means of doing this is to make a single circuit of the whole system. Sometimes this is objectionable. If the system is above medium size, it takes too long to circulate the job. And it may be desired to cut down the size of the fittings on the branches from the main.

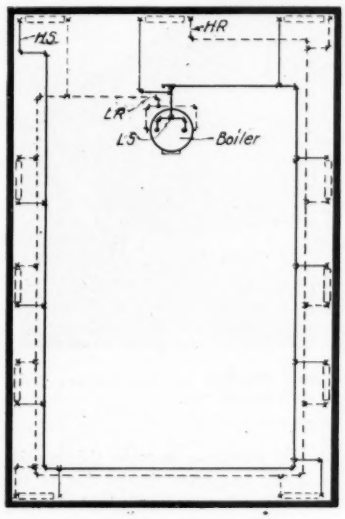
A typical installation is shown herewith in three separate plans of the basement of a residence (see Fig. 1), the radiators on the first floor being shown in dotted lines.

With the system of reversed returns, the supply main is pitched upward in the usual manner, the low point being at the boiler and the high point being at the last connection taken off. The return, however, does not parallel the supply in the usual manner, but instead the high point is established at the first unit taken off, so that the first connection supplied is the last to get back to the boiler, and the last supplied is the first to return to the boiler. The return main pitches back to the boiler, as in the parallel system; the only change is in the direction taken by the return lines.

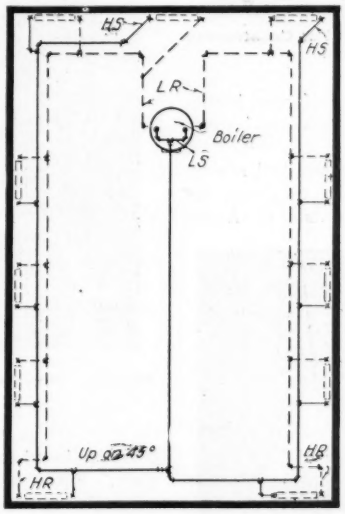
Plan No. 1 shows the simplest possible layout: A circuit system in one continuous supply line, and a corresponding continuous return. "LS" indicates the low point of the supply main, "HS" the high point of the supply main; "LR" indicates the low point of the return main, and "HR" the high point of the return.

Plan No. 2 shows a two-circuit method with the same boiler and radiator locations. Some judgment is needed here in balancing the size of the two mains; one side—the left—has one more radiator than the other; if the amounts of radiation on the two sides are nearly equal, the mains may be given the same size, and that having the slightly greater amount be favored by rising on a 45-degree ell at the point where the mains are divided.

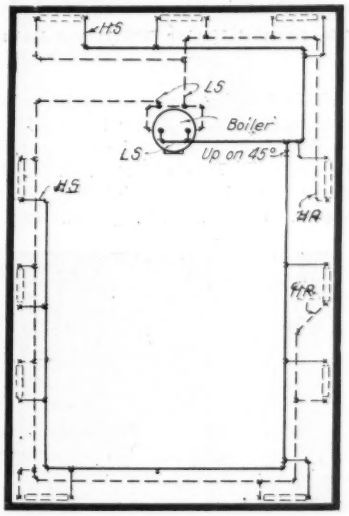
Plan No. 3 calls for still greater nicety of judgment in sizing the main. It consists of one short circuit to take care of the radiators closest to the boiler, and a longer circuit to carry the balance of the load. This is a good plan, if the rear of the building is the most exposed. The mains may be balanced by favoring the large mains in size and by taking off on a 45-degree looking up. Or the small main may be cut down in size and be favored in taking off by being given the top take-off connection.



PLAN No. 1



PLAN No. 2



PLAN No. 3

In all three plans the layout of the mains calls for reversing the return main, and it will be noted that the supply openings as well as the returns are joined together so as to form a supply header and a return header.

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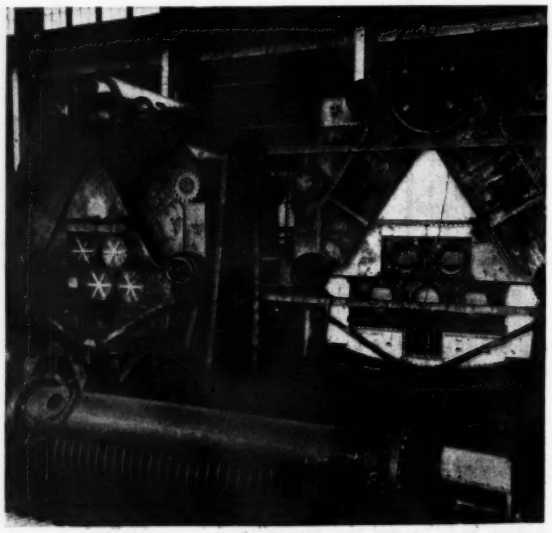
**There are multiplying evidences** of the fact that domestic business has "turned the corner" and is gradually but surely emerging from the deflation period that began about the middle of last year, according to the "Guaranty Survey," the Guaranty Trust Company's of New York monthy review of business and financial conditions. Two outstanding indications of the improvement are cheaper money, with its concomitant easier credit, and the more or less widespread industrial revival.

## THE LARGEST MARINE BOILERS IN THE WORLD.

ALTHOUGH they are not of the domestic heating type, twelve huge boilers, four of which have been completed, and eight now under construction at the plant of the New York Engineering Co., of Yonkers, N. Y., are of interest to the plumbing and heating industry for patriotic as well as professional reasons. For these boilers are the largest marine boilers ever

**The Largest Marine Boiler ever Built now being Constructed for the U. S. S. North Carolina.**

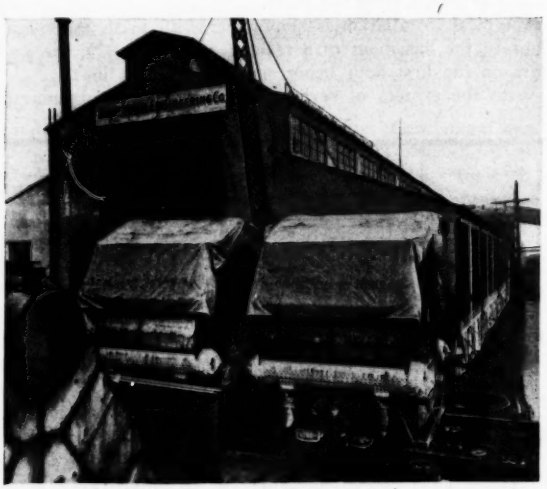
built in America, and they are being built for the largest battleship in the United States Navy. Moreover additional interest in them is afforded by the fact that, owing to current historic developments at Washington, D. C., these monster boilers may never be used for the original purpose for which they were designed. In other words, upon the accomplishments of the Armament Limitations Conference rests their fate. For the U. S. dreadnaught "North Carolina," for which these boilers are being built, is now under construction at the Norfolk, Va., Navy Yard, and under the disarmament program now being discussed at Washington this colossal ship would be among those scrapped by the United States Government. In that event, the boilers would not, however, go to the scrap heap. Heating engineers will be interested in the statement made to a representative of "Domestic Engineering" by Arthur H. Clements, general manager of the New York Engineering Company's plant, that if the North Carolina is scrapped the boilers would be converted to stationary use, and that it is not outside the range of possibility that, with certain changes, they could be made available for heating plant purposes. Mr. Clements did not care to go into details on this point, but he expressed the opinion that the transformation of a marine boiler into a heating plant boiler was a practicable development. In this suggestion may be seen, perhaps, a way of preventing the ships discarded under the naval holiday plan from being a total loss.



**Another View of the North Carolina's Monster Boilers.**

About two years ago, when the program for the building of a large navy was put through, and the plans were laid for the North Carolina, the largest dreadnaught planned for the navy, the New York Engineering Company received the contract to build the boilers.

A special thickness of steel plate is required in the construction of boilers for naval use and the securing of this material was no easy matter for the company. The steel mills were busy, working night and day, and it was not worth while to roll a special plate of the required thickness because there was not a big demand for it. Then followed the period of business depression and the company found the steel mills still unwilling to make this special plate. But at last, it was secured and after delays due to the congestion of shipping, work was started on the boilers about nine months ago.



**Shipping Three of the World's Biggest Marine Boilers from Yonkers to Norfolk, Va.**

The Ludlum type of boilers is familiar to those who understand marine engineering. It is found in a great many of the steamships and steamboats in this country.

The Navy boilers are of a similar type, except that there are a few additions and modifications in the boilers so that they are of the Admiral Deitson type.

Over 100 miles of tubing have been used in six of the boilers.

Under the navy contract, delivery is not compulsory until July, 1922, but the company has made its first delivery eight months in advance. The remaining eight of the order are 80 per cent finished.

The twelve boilers will furnish the battleship, if it is not scrapped in the disarmament program, with 90,000 horsepower. This is enough power to furnish the City of Yonkers with light and power.

The New York Engineering Company is 16 years old, having been organized by the present head, A. C. Ludlum. During the days of the Emergency Shipping Fleet, this concern supplied thirty-six of the vessels of the fleet with boilers.

# SUCCESSFUL SEWAGE DISPOSAL SYSTEMS *for* FARM *and* RURAL HOMES *and* SCHOOLS

## *Promote Modern Plumbing, Reduce Home Drudgery, and Make Farm Life More Attractive*

*By* Frank R. King,

Plumbing and Domestic Sanitary Engineer, Wisconsin State Board of Health, Madison, Wis.

A FEATURE in the development of rural life during recent years has been the construction throughout the country, and especially in the more developed communities of ***modern*** farm homes and other buildings.

Many farm homes are now equipped with electric light and power. Modern labor-saving devices which at one time were thought to be available only for the city dweller are now being installed on the farms.

There has been among some a tendency to postpone the installation of modern plumbing owing to lack of general information by plumbers, architects and laymen alike in designing and installing sewage disposal systems that will function satisfactorily under the various conditions existing.

There are doubtless some localities where adverse conditions make difficult or impossible the proper disposition of effluent from a sewage treatment tank. Such conditions include the lack of a natural outlet (river, stream, ravine ot lake), and topography of the land or non-absorbent character of the soil.

In the large majority of cases an efficient, durable and satisfactory water system of the "compressed air storage" or "air pressure direct from the well delivery" type, and sewage treatment and disposal systems can be installed at a reasonable cost.

In every case the designer or installer should make a full investigation of all factors to be considered in determining what system of water supply and sewage disposal should be adopted.

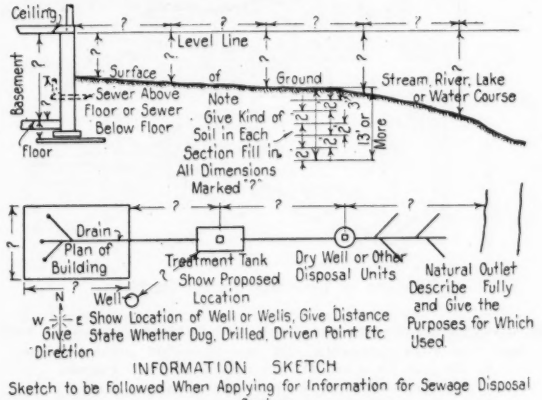

Ceiling
Level Line
Basement
Surface of Ground
Stream, River, Lake or Water Course
Sewer Above Floor or Sewer Below Floor
Floor
Note Give Kind of Soil in Each Section Fill in All Dimensions Marked "?"
Drain
Plan of Building
Treatment Tank Show Proposed Location
Dry Well or Other Disposal Units
Natural Outlet Describe Fully and Give the Purposes for Which Used
Well
Show Location of Well or Wells, Give Distance
Give Direction
State Whether Dug, Drilled, Driven Point Etc
INFORMATION SKETCH
Sketch to be Followed When Applying for Information for Sewage Disposal System.

**Fig. 1.—Information Sketch.**

The type of plumbing equipment and its use with relation to maximum water consumption must also receive careful consideration.

The attention of the property owner should be directed to the importance of determining the adequacy of drainage possibilities before selecting a site for building purposes. This is especially necessary in all cases where large amounts of sewage or water carried wastes are to be disposed of from public buildings, such as schools, institutions and industries.

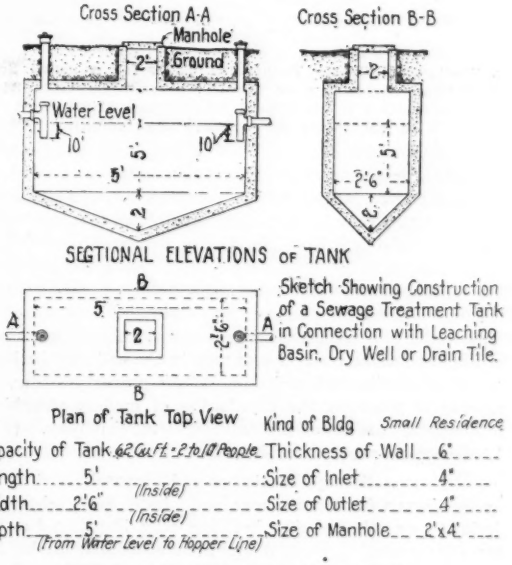

Cross Section A-A
Manhole
Ground
Water Level
Cross Section B-B
SECTIONAL ELEVATIONS OF TANK
Sketch Showing Construction of a Sewage Treatment Tank in Connection with Leaching Basin, Dry Well or Drain Tile.
Plan of Tank Top View
Kind of Bldg Small Residence
Capacity of Tank 62 Cu Ft - 2 to 10 People
Thickness of Wall 6"
Length 5' (Inside)
Size of Inlet 4"
Width 2'6" (Inside)
Size of Outlet 4"
Depth 5' (From Water Level to Hopper Line)
Size of Manhole 2'x4'

**Fig. 2.—A Typical Small Septic Tank.**

As a guide for residential or similar small sewage disposal systems where a public sewer system is not available, or in rural districts typical methods are presented. The various systems discussed and shown by illustration are either identical with or similar to several thousand systems which have been installed in Wisconsin during the past eight years and which in operation have been found to work satisfactorily providing due care is exercised in the selection of the system to meet the conditions, and proper attention is given in operation. These systems consist of a treatment tank and various methods for the disposal of treated effluent, each depending upon the particular lay of the land, character of the soil and other conditions existing.

It is essential that the designer or installer take carefully into consideration the existing conditions, including kind of building, number of occupants served, estimated volume and character of the sewage to be treated and disposed of, topography of the land and character of the soil to a depth from 12 to 15 ft., if the effluent is to be disposed of by soil absorption. The topography of the

land with relation to the availability of a natural outlet are also factors which should be considered.

Other important factors are source of water supply, character and depth of the well, whether dug, drilled or driven point, or spring, distance of the well or spring from the proposed disposal unit, and other data as may have a bearing on the subject.

Note: In Wisconsin the State Board of Health, through the Bureau of Plumbing and Domestic Sanitary Engineering, assists

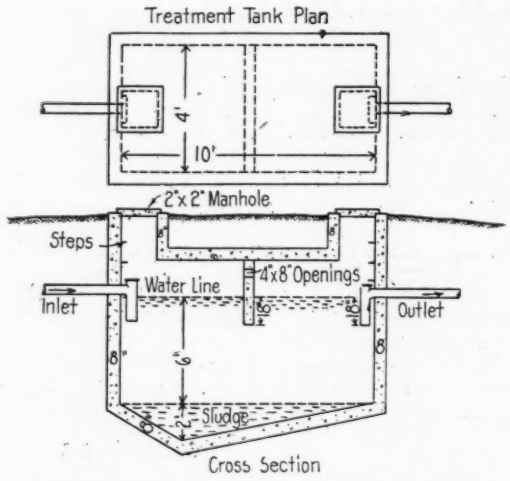



**Fig. 3.—Typical Septic Treatment Tank for a small School Building. Operating or Liquid Contents Capacity 340 cu. ft.—100 to 120 School Attendance, depending on the Type of Sanitary Equipment.**

those seeking information on private disposal in cases where adequate data can be furnished by correspondence. In cases where such information cannot be detailed in writing, supplemented by a diagram of the premises (Fig. 1), the field men of the Bureau visit the premises to determine the type of system to be employed.

The department furnishes plans, specifications and instructions sufficiently detailed to construct and maintain the system in accordance with the recommendations made. This procedure has been found to make for real economy in the end and besides insures better service and sanitation to the property-holder. Undoubtedly it promotes the installation of modern plumbing in rural districts, thus materially reducing home drudgery. (Figs. 1 to 13 are typical plans as furnished.)

### Sewage Treatment and Disposal.

Sewage from a farm or summer home, hotel, rural school, place of industry or other similar building may be defined as waste water (water-carried wastes) from water-closets, baths, sinks, wash-basins, laundry tubs, floor drains and similar fixtures. These wastes may be disposed of in one of the following ways, providing due care is exercised so as not to create a nuisance or objectionable conditions:

1.—by discharge into subsoil;
2.—by discharge into a river, stream or dry run (by permission);
3.—by discharge into a pond or lake;
4.—by discharge upon the ground surface where feasible.

**Necessity for Treatment.**—Each of these methods of disposal requires some form of preliminary treatment to remove a proportion of the solids and to make possible the satisfactory disposal of the liquid effluent, otherwise a serious nuisance or objectionable conditions may be created, and may result in polluting the water supply or otherwise endangering health.

**Cesspools.**—A cesspool as ordinarily used may be defined as a hole in the ground the sides of which are cribbed with wood or stone laid up loose so as to allow the liquids to escape into the ground. The solids in the sewage settle to the bottom, and unless the soil is of loose formation, such as coarse gravel, will soon choke the voids in the earth and result in reducing in part or in whole the absorption qualities of the soil and thus render the disposal medium useless. For this reason and because of the greater danger of pollution of the water supply and of creating objectionable conditions, cesspools should not be used as a medium for the disposal of sewage.

**Septic Tanks.**—The septic sewage treatment tank is the simplest and most practical form of treatment to reduce the suspended matter contained in water-carried waste and to render the sewage more readily capable of final disposal with minimum possibilities of a nuisance or objectionable conditions being created. (Figs. 2, 3, 4, 5 and 5-A.)

All tanks of this kind receiving domestic sewage should have one or more compartments into which the sewage from the building is discharged, and thence by an inverted outlet to a disposal unit consisting of a leaching compartment (dry well) absorption trench, tiled absorption field, filter beds, or a properly designed and constructed combination of either of the above units or into a permissible natural outlet as the case may require for satisfactory disposal of the sewage effluent.

### How the Septic Tank Functions.

The purpose of the septic tank is to assist and to expedite the natural process of decomposition and putrefaction.

Two simple changes take place in such a tank:

The first is the settlement of the solids to the bottom, the grease and lighter particles floating to the top.

The second is the decomposition of the settled solids.

This is brought about by the detention of the sewage and its decomposition by the action of a certain type of bacteria which multiply in the solids and in the scum which forms on the surface of the tank.

These bacteria thrive without oxygen and break up the solids into liquid and gases. It should be observed that the above is all that a septic tank accomplishes.

The statement has often been made that sewage after passing

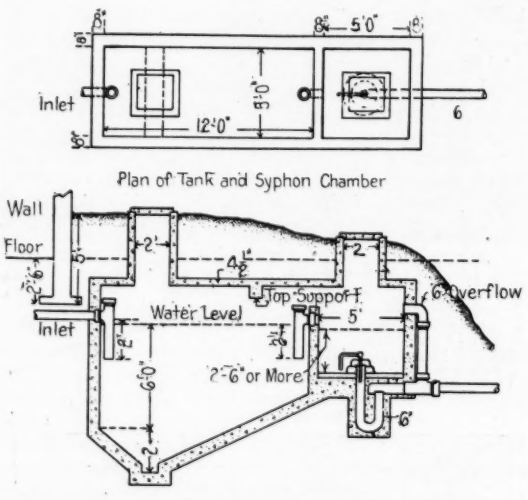



**Fig. 4.—Typical Treatment Tank and Syphon Chamber. Sewage Contents Capacity 360 cu. ft.—2700 gal. divided by 30 gal. or 4 cu. ft. Sewage Flow per Person per day—90 Persons or Operating Capacity.**

through a septic tank has undergone a 90 per cent purification, and many have conveyed the idea that the effluent from a septic tank if properly designed and operated should be fit to drink.

It is hoped that these illusions may cease to exist, for the effluent from a septic tank may be just as dangerous to health as the raw sewage which is discharged from the building drain.

A septic tank, provided it functions properly, removes the greater part of the solids from the sewage. But it does not necessarily

remove or destroy all disease organisms which may be present in the sewage as it enters the tank.

Nor is the effluent free from offense. If allowed to pond on the surface of the ground it may create a nuisance. If it finds its way into the source of a water supply it will eventually result in contaminating the water. If discharged into a stream of insufficient volume to make for proper dilution it may result in pollution of the stream to such an extent as to create dangerous conditions for man and beast and fish life.

A septic tank will not continue to operate indefinitely without attention. The purpose of the septic tank is to liquify the solids. However, a certain amount of solid matter will accumulate in the tank and require removal once or twice yearly. For this reason manholes must be provided.

**Location of the Treatment Tank.**—The depth of the excavation necessary for the tank may be greatly reduced if advantage is taken of any natural fall in the ground surface.

The soil pipe should extend from the house at a point nearest to the location of the tank.

Too frequently the plumbing installation within the building is partly installed or completed before proper consideration is given to the location of the sewage treatment tank and disposal unit, resulting in the location of the disposal system to suit the building outlet drain which may bring about adverse conditions.

Owing to the possibility in cold climates of frost penetrating to a depth from 5 to 7 ft. during extremely cold winters, or other unfavorable soil conditions, it may be necessary to protect the tank contents and the drain leading from the building to the tank and the disposal unit against frost. For this reason it may be preferable in some instances to locate the septic tank close to the building or comparatively near a source of water supply. (Fig. 6.)

In such cases every precaution must be taken to make the tank and piping leading to and from it absolutely water-tight. The wall of the basement or building must under no circumstances be used as part of the tank, which must be so built as to constitute an independent structure. The inside of all septic tanks so located that water-tight construction is essential must be finished with a coating of cement mortar at least ¾ inch thick, smoothly troweled and of a mix of one part cement and one of sand.

The sewage treatment tank should not be situated near a window or near a door. Under certain favorable conditions the tank may be thus located, or placed within the building itself, provided

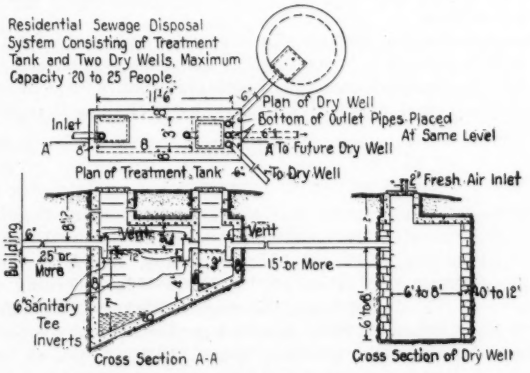

Residential Sewage Disposal System Consisting of Treatment Tank and Two Dry Wells. Maximum Capacity 20 to 25 People.
Plan of Dry Well
Bottom of Outlet Pipes Placed At Same Level
Inlet
To Future Dry Well
To Dry Well
Plan of Treatment Tank
2" Fresh Air Inlet
Vent
Building
25' or More
15' or More
6" Sanitary Tee Inverts
6' to 8'
10 to 12'
Cross Section A-A
Cross Section of Dry Well

**Fig. 5.—Residential Sewage Disposal System Consisting of Treatment Tank and Dry Wells. Maximum Capacity 20 to 25 Persons.**

it is of water and air-tight construction including manholes, covers and satisfactory provisions for the removal of sludge. The general rule further, is not to locate a treatment tank within 2 ft. of any lot line or 10 ft. of any cistern or 20 ft. from any well, spring or other source of water supply used for domestic purposes, and where practicable to do so greater distances should be provided.

**Size and Construction of Septic Tank.**—The minimum dimensions of any septic tank should be 2 ft. 6 inches in width by 5 ft. in length and 5 ft. deep below the outlet pipe. This size of tank may be used in all installations for six persons or less. The minimum dimensions of a septic tank for 12 persons or less should be 3 ft. wide, 6 ft. long and 5 ft. deep below the outlet. (Fig. 2.)

For larger installations the capacity of the tank should be equal to 24 hours' flow of sewage, estimating such flowage for residences at 30 gallons per occupant per day.

Where unusually large volumes of laundry or other clear water are tributary to the tank the capacity should be increased in the

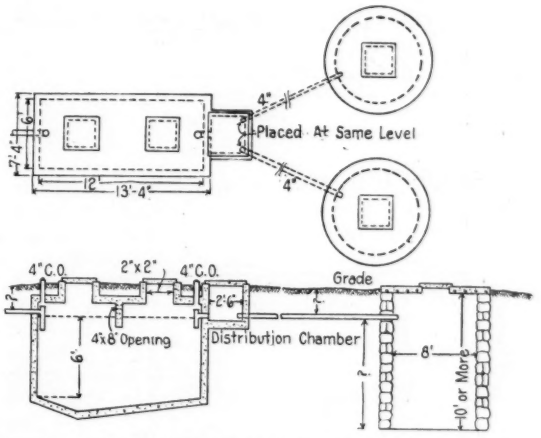



**Fig. 5A.—Illustrates Manner of Distributing Equal Volumes of Effluent to a Series of Dry Wells. The Outlets from the Diversion Chamber must be placed at Same Level. Also see Fig. 5.**

ratio of one cubic ft. of space to every 20 gallons of such surplus water.

For schools equipped with individual modern closets, bowls, urinals, wash basins, drinking fountains and customary floor drains, base the tank liquid contents capacity on 15 gallons per pupil. Thus with a school attendance of 50, we have 50 x 15 = 750 gallons—100 cu. ft.—a tank 3 ft. wide, 7 ft. long and 5 ft. deep below the outlet pipe.

Places of employment (domestic sewage only) allow 15 gallons per person plus any other waste waters tributary; for institutions from 60 to 100 gallons per day, depending on the type of the institution. It should be remembered that the depth of the tank below the water level should never be less than 4 ft., preferably 5 ft. or deeper.

Large amounts of clear water such as obtain from rain-water leaders, cistern or other overflow pipes, must be excluded from the treatment tank.

Large amounts of greasy waste such as are discharged from laundries, kitchens, hotels, restaurants, club houses, public institutions or similar places, should be passed through an interceptor of adequate capacity or should be separately disposed of.

The length of the tank should be in the direction of the flow and should be at least twice the width to give uniform flow through the tank and to insure that the outlet is reasonably distant from the agitation caused by the inflowing sewage at the inlet.

The inlet to the tank must be inverted by means of a sanitary tee fitting with the top left open. The invert should extend from 8 inches to 15 inches below the water line. In lieu of the tee fitting a baffle board extending 6 inches above the water line and 8 inches to 15 inches below the water line may be used. (Figs. 2, 3, 4 and 5.)

The effluent should leave the tank at a similar depth below the surface. This is accomplished by the placing of a sanitary tee fitting and the bottom of the outlet pipe from 2 inches to 4 inches lower than the bottom of the inlet pipe. The bottom of the tee or invert should extend at least 15 inches below the water line, or a baffle wall as prescribed for the inlet may be used in lieu of the tee. (See Figs. 2 to 6, inclusive.)

The gases formed by the bacterial action in the tank escape through the inlet opening in the tee along the inlet pipe and through

the soil pipe to the roof of the building. To accomplish this it is essential that fresh air inlets and openings be placed as shown in the sketches.

The septic tank must be provided with one or more manholes which must be equipped with a substantial air-tight cover (either

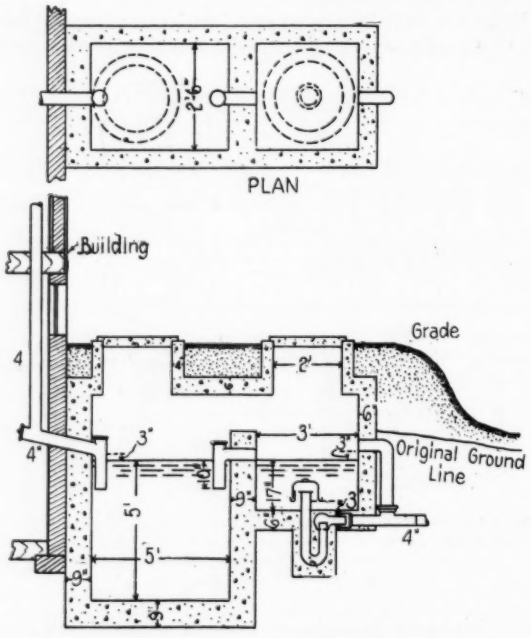



**Fig. 6.—Illustrating Manner of Locating Treatment Tank Adjacent to Building. Note Original Grade Line and Ground Fill. Operating Capacity from 2 to 10 Persons.**

a concrete slab or cast iron), and the opening must be large enough to permit access to the tank for inspection and cleaning.

Deep tanks, or tanks in which the water level is more than 5 ft. from the surface of the ground, should be provided with wrought iron steps, placed in the manhole so as to form a ladder (Fig. 5).

Note: There are numerous designs of tanks and systems which

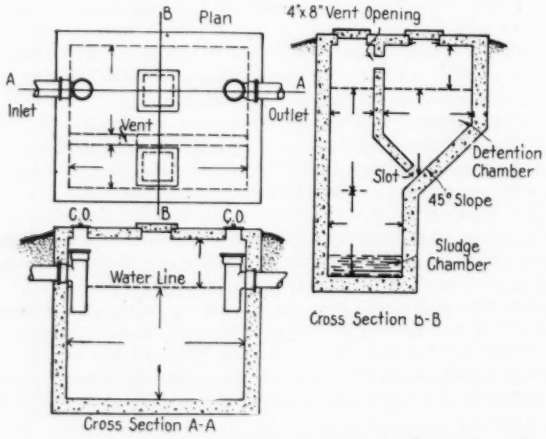



**Fig. 7.—Illustrating a Small Imhoff Tank.**

if properly constructed and operated are, under normal conditions, efficient. A typical small "Imhoff tank" is shown in Fig. 7.

**Instructions for Operation and Care of Septic Tank.**

It is essential that the sludge found at the bottom of the tank be removed whenever it rises to a point exceeding one-quarter of the liquid contents of the tank. The sludge can best be removed by an adequate pump of ship or cistern type. The fats or scum (found at the top of the liquids) may be broken up and allowed to settle or partly removed when it exceeds 8 inches in depth. The scum, by excluding light and air from the liquid, provides the conditions under which the bacteria multiply on its under surface and in the solids which settle to the bottom of the tank. Should the fats or top scum or sludge pass over into the outlet pipe it may become a factor in creating objectionable conditions at the outlet drain terminal or in rendering useless the dry well, tile absorption field, filter trench, gravel filter, or other purification or disposal unit.

**Safety Precautions.**—In the cleaning of a sewage treatment tank or dry well, extreme care must be exercised not to enter without first causing complete ventilation and removal of gases from the tank. Fatal accidents have resulted from entering tanks without first dissipating the dangerous gases. The person entering should be secured firmly by a rope held by others at the top to render assistance upon the first sign of distress below. A lantern may be used to determine the presence of foul air or gases. The extinguishment of the flame may be accepted as a danger signal and as a warning not to enter. This method should, however, not be employed where gases from gasoline and volatile oils are apt to exist, as a dangerous explosion may result.

**Removal of the Sludge.**—The sludge, fats, or scum when removed from the tank has a very offensive odor and is objectionable material, and must therefore be disposed of so that a nuisance is not created. It should be hauled away and buried or spread upon farm land and plowed under, or removed a safe distance from all dwellings in the vicinity. Such removal should take place either in the spring or fall of the year.

**Starting of Syphon.**—Before starting the system the automatic syphon when one is employed, must be filled with water. The manhole cover on the syphon chamber should be lifted occasionally and the action of the syphon examined.

If the flush is not acting properly the bell of the syphon should be removed, the syphon filled with water and the bell replaced. (See Figs. 4 and 5.)

**Protection Against Frost.**—In cold climates not later than November 1 of each year all pipe lines, field tiles, manholes and tanks which may be subject to frost should be covered with a layer of damp pressed straw 12 inches thick.

This layer should extend 4 ft. on each side of tanks and pipes.

Manure should not be used for this purpose. It will not protect the ground sufficiently against frost and may produce insanitary conditions.

**Inspection of the System.**—To obtain the best results from a treatment plant, it is important that the entire system, and especially the treatment tank and disposal units receive frequent and careful inspection, especially with reference to cleaning at regular intervals.

(To be Continued.)

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**More Portland cement** was produced in October than in any other month of 1921, notwithstanding the seasonal trend. Production was 10,506,000 bbl.; shipments, 12,114,000 bbl.; stocks held at end of month, 5,348,000 bbl., according to figures of the United States Geological Survey. Beginning with May, shipments have exceeded production every month, thus reducing stocks gradually from 12,600,000 bbl. at end of April to 42½ per cent of that amount. Shipments for the ten months (86,159,000 bbl.) exceeded the average of the five previous years by 11.3 per cent.

**There is little chance** of any reduction in first class passenger rates by the large transatlantic lines during the winter, passenger agents declare. Present rates will be maintained until April, when the usual 10 per cent increase for the summer months will become effective.

**Of the total American trade volume** slightly more than a fourth is now in finished manufactures ready for consumption. The proportion is nearer to that for 1913 than to any other period in the past eighteen years. Greater progress has marked exports than imports.

# LEGAL QUESTIONNAIRE

## *Can the Installation of Process Piping and Machinery Be Included in the Scope of a Mechanic's Lien?— This Question is Answered in a Most Careful Manner**

*By* "The Judge"

**Installation of Process Machinery May or May Not Give Right to a Mechanic's Lien.**

Editor, "Domestic Engineering":—A considerable part of the business of my firm, which is a heating and plumbing concern, consists of the installation of process piping and machinery, so-called, in industrial plants, both in new buildings and in alterations to old buildings. In your recent articles in this column on mechanic's liens you have not touched on the subject of whether such work would be included within the scope of the mechanic's lien laws for which we may claim a lien. As we do other work than process piping and process machinery, I should also like to know, in a general way, what materials and work are covered by the mechanic's lien laws. T. W. S.

Answer:—Under the statute dealing with mechanic's liens in your state, the answer to your question depends principally on the fact whether the buildings in which you do your work were erected for the purpose of carrying on the business for which you installed the process piping and machinery. If, for instance, the building in which you do the work was erected as a sugar refinery, it is probable that the special process piping and machinery would be considered as a part of the real estate. On the other hand, if a dye works company should lease a vacant building and then ask you to install vats and steam piping, it is probable that the court would say that such vats and piping were what are known as trade fixtures, could be removed by the tenant when his lease expired, were therefore not a part of the real estate, and consequently could not be covered by a mechanic's lien. In this latter example, in the case of the work ordered by the dye works company, it might make a difference whether the work was ordered by the owner of the building or by the tenant, for that fact might have a bearing on the question whether the piping and vats became a part of the real estate or not. It is impossible to give any definite rule as to whether machinery and piping become a part of the real estate and are to be treated as such, for every instance of such installations depends for an answer upon the facts peculiar to each case.

In order to establish a mechanic's lien it is usually necessary that the materials furnished or labor performed should have gone into something which has become a part of the real estate as distinguished from other things which may be severed from the building or the real estate without serious damage thereto. Each state has its own statutes covering this subject and while the majority of them are very similar, it is nevertheless a fact that in close cases, when it is hard to decide one way or the other the question whether the improvement has become a part of the real estate or not, different courts make different decisions.

As an illustration of the various kinds of decisions, statutes dealing with mechanic's liens have been held to give the right to a lien to persons who have dug oil wells, installed derricks, smelters, windmills, breakwaters, dams attached to saw mills, lightning rods, wharves, fences, flumes and ice houses. Other statutes have been found not to give a right to a lien to persons who have installed electric lighting apparatus, coke ovens and oil tanks. Even these decisions do not mean that in every case involving a similar work, the same court might not decide differently under slightly different facts. A contractor engaging in the erection of anything not directly going into the construction of what may be called the very building itself, should be particularly careful to seek expert legal advice in order to protect his interests.

Some statutes give a right to a mechanic's lien only in cases where there has been an erection or construction of a building. In such cases the controlling fact appears to be whether or not a new building has been put up. Each of such cases must depend on its own circumstances for an answer to the question whether a new building has been erected. It sometimes happens that considerable work and alteration may be performed in making changes in an existing building and yet the building may not lose its identity nor cease to be the same building. In other cases the building might be so changed in plan, structure, general dimensions and general appearance as to become in a fair sense a new building, although some portion of the old materials may remain in it. Under such a statute a mechanic's lien has been held to exist where an old building has been remodeled in such a way that the structure of the old building has been completely changed. To the contrary, merely adding a basement to an existing building has been held not to give a lien right, and no right to a lien has existed in a case where new machinery was installed to supplant old and where the frame of the old building is neither raised nor enlarged.

Questions raised under the statutes mentioned in the foregoing paragraph are not of any importance under statutes which give a right to a lien for alterations, repairs, improvements and additions to real estate, except in a few states which have decided some extreme cases.

The moving of a house has been held to give a right to a lien under a statute giving such a right for construction, alteration or repair. No lien would seem to exist where a building is torn down, except in cases where the tearing down of the building was followed by the construction of a new one, and the work of demolition might fairly be said to have been a real part of the alteration work. Excavations and foundations for a building have been found to give a lien right even though the building may never be completed.

When what is called personal property, which is generally any article which is not real estate, is attached to real estate in such a way as to become a part of the real estate,

***Every Effort is made to the End that these Answers may be authoritative. However, we cannot assume any Responsibility because of the Very Nature of the Service, which is rendered without a personal interview.—Editor.**

it is usually held that the contractor has a right to a lien. This rule does not, broadly speaking, depend upon the fact that the materials or articles used are worked into the building, such as brick in a brick wall, but depends upon the fact whether the materials or articles become a real part of the building. For instance, screen doors are frequently very easily severed from a building, and yet as a necessary part of the equipment of a building they are considered as a part of the real estate; while some process machinery, such as you might install in an old building, might be very heavy, might be fastened to the floor, might require considerable time and effort to remove it from the building, and yet might not be considered as a part of the real estate. It might be argued in the case of such process machinery that its removal from the building would still leave a building in existence which could be used for the purpose for which it was erected, namely, to be let to anybody who might be willing to pay the rent.

If machinery is firmly attached to the building so as to become a part thereof, it is usually held to be subject to a lien. You will note the recurring phrase "so as to become a part of the real estate." I realize that this is a somewhat blanket phrase which might mean almost anything, but it is as definite as any phrase which could be used for general application in such cases. Two different courts will decide the question whether machinery has become a part of the real estate in different ways, and even the same court will make apparently inconsistent decisions on what appear at first to be very similar facts.

Where improvements are made outside of a building, such as piping to a water tank, such improvements must either be a part of the building as a building, or must have been included in the contract for the building, in order that the contractor may have a lien right.

When a round price is to be paid for labor and materials, and the statute gives a lien only for a part of the work, and there is no means of determining what part of the total price should be apportioned to the work for which a lien is given, no right to a lien of any kind exists. Some states give an architect who prepares plans and superintends the construction of the work a lien, and other states do not, under statutes which are worded in substantially the same way. In some states an architect who merely prepares plans and has nothing to do with the construction work, is not given a lien right. In the same way the various state courts differ when deciding whether a superintendent is entitled to a lien for his supervision of the work of construction.

It is sometimes held that a party who does work on materials intended for use on a building and actually used is entitled to a lien, although the work is performed on the materials away from the building where they are to be used. Also, a lien is given sometimes for labor performed outside of the premises but necessarily connected with the structure thereon. Generally, however, the materials used and the labor performed, must have entered into the construction of the building. In one case, where an old building had been partly repaired by a contractor and had then been torn down, and a new building had been erected in its stead by the same contractor, it was held that he had a right to a lien for the materials furnished and used in the old building which were later used in the new structure.

Materials which have been used as an incident to the construction of a building, but which have not been incorporated therein, such as tools, machinery, stagings and other things which are of assistance in the work of construction, usually are not covered by a lien right. Some courts have held that where a party has furnished materials under his contract he is entitled to a lien although the owner may refuse to use them, goes into bankruptcy, diverts the materials to other uses or otherwise disposes of them without the consent of the contractor. If you should furnish materials for a building, specially constructed and designed for that particular building, you might have a lien right even though the general contractor should suspend work. In some states it is sufficient to give a lien right if the materials are furnished on the credit of the building for use therein, and it is immaterial as between the owner and the person who furnished them, whether the materials are actually used or not.

Where materials are furnished on the order of a general contractor for a particular purpose, a materialman has no lien unless his materials are fit for that purpose; but the rule is otherwise where the materials are furnished on the order of the owner of the building.

All that I have said regarding the broad subject of this article must be taken as general rules which will vary, and perhaps vary widely, in their application to any particular set of facts. The mechanic's lien statutes in the various states are highly technical in many of their phases. If contractors and subcontractors would seek expert advice in cases of building operations of any magnitude, they would find themselves amply repaid for the protection of their interests. In your own case, where you are engaged in installing process machinery, it is especially important that you have proper legal opinions regarding almost every contract which you undertake. This is so because machinery placed in one building may carry with it a lien right while similar machinery in another building may not.

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**Moderate increases in loans** and the discounts, mainly of loans secured by corporate obligations, as against smaller reductions in investments, accompanied by a substantial increase in demand deposits, largely bank balances, with the New York institutions, are indicated in the Federal Reserve Board's weekly consolidated statement of condition on November 30 of 807 member banks in leading cities. As against a further increase of $37,000,000 in loans secured by corporate stocks and bonds, loans secured by U. S. Government obligations show a decline for the week of $5,000,000, and all other loans and discounts, comprising largely commercial and industrial loans, a decrease of $6,000,000.

**The next amendment to the Federal Constitution** may be one forbidding the further issue of tax-exempt securities. Measures with this end in view were introduced in both houses during the last session of Congress, and President Harding urged the adoption of such an amendment in his recent message. Opinion is unanimous that the prohibition of tax-exempt issues can be effected only by the slow and uncertain process of amending the Constitution. Even if such an amendment should be duly ratified, there would still be a huge volume of exempt issues outstanding which would not be affected and which would offer a considerable avenue of escape from taxation. Obviously no amendment can touch these without impairing the obligation of contracts.

**The number of unemployed in the United States** is now placed at 2,000,000 compared with an estimated 3,500,000 at the time of the unemployment conference. Living costs are still 63.8 per cent above July, 1914; prices of some raw materials are below 1914. Prices of manufactured articles are still 25 per cent to 120 per cent above 1914. The average decrease in wages is from 10 per cent to 15 per cent.

**An International Economic Conference,** which, if summoned would be as vital to the commercial and industrial relations of the world as the present Conference on the Limitation of Armament is to its political and diplomatic relations, is called for by the General Committee on the Limitation of Armament in a resolution made public this week. The economic gathering would be instituted by the Government of the United Sattes, according to committee plans.

# QUESTIONS & ANSWERS

**This department is a clearing house for ideas and is open to every reader of "Domestic Engineering." Problems sent in are replied to at the earliest possible moment by "Domestic Engineering," and this department can be made more valuable if readers themselves will help the man who needs assistance. Read the questions and answers. If you have had similar problems, or know from experience how the faults can be remedied, do not hesitate to send in your comment or criticism. It will be some satisfaction to you to know that you have helped a fellow craftsman and a pleasure for us to pass on the data. "Every man owes some of his time to the upbuilding of the profession to which he belongs."**

## THE HEATING OF A ONE-STORY SHOP.

Editor "Domestic Engineering":—As an interested subscriber I would like to have you discuss in an early issue the best method of installing a heating plant in a one-story shop as shown in the attached sketch.

I have been making a close study of welding and would prefer to have you explain in detail how to successfully heat this one-story shop by steam or hot water using the welding process instead of threads and fittings.

Will you also please explain whether steam or hot water is preferable on account of radiators being lower than the bottom of the boiler? The low position of the radiators is on account of the cold air at the doors and the owner of the building refusing to grant permission for a boiler pit.

Detroit, Mich. A. J. W.

The matter of using either welded or threaded joints in erecting the piping system of a heating apparatus is a detail

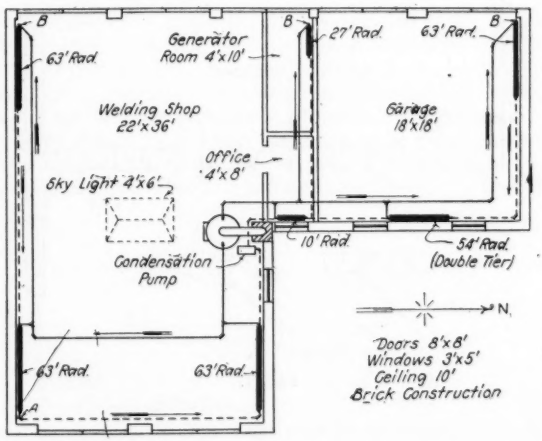



**Fig. 1.**

of construction which does not bear upon the question as to what is the best method of heating a one-story shop. We should judge that it would be best to construct the work in the usual manner—that is, use cast iron fittings and threaded joints. There is nothing to be gained by welding the pipe and we think the cost of the work in this case would be much greater if constructed in this manner.

Correspondent submits a sketch showing a floor plan of the building on which dimensions are indicated and the location of boiler and radiators is shown. Three steam radiators of 58 sq. ft. each are shown in the welding room, one of 10 sq. ft. in the office, one of 25 sq. ft. in the generator room and two of 60 sq. ft. in the garage. This sketch is illustrated by Fig. 1. We recommend that the wall type of radiators be used for this work and, assuming that a sufficiency of radiation has been figured to maintain the required temperature, we have slightly changed the amounts given in order to use wall radiator sections of standard size. For the welding room we suggest three 63-ft. radiators; for the office one 10-ft. section; for the generator room three 9-ft. sections (27 ft.) and for the garage two radiators of 63 ft. and 54 ft., respectively, made up of 9 ft. sections. As there is not sufficient space between the windows on the east side of the garage for a radiator of the length given, a double tier of six 9-ft. sections, three sections in each tier, may be used or a 60-ft. radiator made up of two tiers of 10-ft. sections. Not knowing the character of the roof construction and whether or not the rooms have a ceiling or are open to the roof, we cannot verify the amount of radiation figured by correspondent and shown on his sketch.

Conditions of the work, as stated, make the use of an overhead system necessary. As between a steam or a hot water system we believe that steam will give the better satisfaction. We have therefore shown a suggested plan of piping for an overhead steam system. Assuming that there will be two steam outlets on the boiler, and that these outlets will be either 2½ inches or 3 inches in size, the risers should be the full size of the steam outlets. They should rise to a point immediately under the bottom of the roof truss where reducing elbows 2½-inch by 2-inch or 3-inch by 2-inch, as the case may be, will be used to start two 2-inch mains. One of these mains will supply the three radiators in the welding shop and the other the radiators in the office, generator room and garage. The high point of the piping system will be immediately above the boiler and from this point all piping should pitch downward. A pitch of an inch in each ten or fifteen ft. of length will provide good gravity drainage.

The branches supplying the drop risers to the radiators should be taken from the bottom of the mains with 45-degree connections and the supply connected to the radiator at the top of one end. The return connections should be made at the bottom of the opposite end of the radiator. The radiators should be attached by brackets to the wall in such positions that the bottom of the radiator will be about three ft. above the floor. This is particularly desirable in the garage as the radiators when located in such positions will not interfere with the movement of cars or trucks.

Correspondent states that the owner of the building objects to the placing of the boiler in a pit, therefore there is but one good method of installation available. The return cannot be connected directly with the boiler and therefore a small pit should be constructed at the rear of the boiler of sufficient size to accommodate a small electric pump of

the Chicago or Trane type which can be used to return the water of condensation to the boiler.

It matters not what kind of a heating system is installed, it will be necessary to run a portion of the return piping in a covered trench in order to pass the doors without obstructing them. By following the piping plan we have suggested in Fig. 1, the return from the radiators on the south side of the welding shop will follow along the south wall under the radiators to the point marked "A." From this point to the pump pit this return will be run in a trench, picking up the return from the radiator located on the north wall as it passes under it. The return from the garage radiators will be run immediately below the radiators, and as it passes through the office it will pick up the return from the radiator in the generator room and also that from the office radiator. It will then continue around the chimney in the manner shown and drop to connect with the pump in the pit. As the return piping is dry, no drip or return from a radiator should be connected into it without using a trap or a check valve. The best method is to use a reliable make of thermostatic return trap at the return end of each radiator.

The mains should continue full size to the end where they may be reduced to connect with the drop riser at the end of each. At this point (indicated by "B" on the sketch) a free venting automatic air valve should be placed. Vacuum air valves are desirable at these points and on each radiating unit.

The conditions which govern the installation of the piping system are such that a modified or plain steam system can be installed to better advantage than hot water and we believe it will give better service.

## PLUMBING INSPECTOR SUGGESTS SIMPLIFICATION OF VENTING CLOSETS IN PROPOSED BASIS FOR STANDARD PLUMBING CODE.

Editor, "Domestic Engineering":—In regard to circuit venting for a battery of closets as illustrated in your issues of June 4th and October 22, 1921, the first by W. C. Groeniger, of Columbus, Ohio, the second by A. B., Decatur, Ga., I herewith submit a drawing of the same job as it would be installed in Jacksonville, Fla.

This is conceded by many to be the best job of the three, and we believe experts will admit it is the most economical to install. This job requires less labor and material than either of the other jobs in question. In case of stoppage the Jacksonville job is superior to the Atlanta job, because the fourth closet to the left on each floor, connected as it is between the two closets as shown, will in case of stoppage give little chance for clogging the horizontal vent any length of time, as the closest on the left when flushed will have a tendency to wash out the Y each time it is flushed.

Jobs of this kind are installed in this city in many instances in buildings as high as fifteen stories. On completion of the work men have been stationed on several of the floors and at a given signal all the men flushed the closets simultaneously. After this test the seal of water in the closet traps was normal in each instance. For all practical purposes the system, as here installed, fills all requirements of the law. The local authorities are willing to concede that our plumbing law does not say how perfect plumbing work can be done, but says that one shall not come under the safety first standard. If a citizen desires to have a more extensive venting system for his job there is no objection thereto, if by-pass and flat vent objections are overcome. So there is no limit to how well a plumber can do a job. But how poor a job a plumber can install is what the plumbing laws have to do with. Public opinion enlightened on this particular point is the one great need in the land today.

Mr. Groeniger is known to me only by reputation. I am, however, free to say I favor at all times conservative views on the installation of plumbing. The ever increasing necessity of plumbing work in this land of ours requires that it must be done at the lowest possible cost consistent with good business, and the protection of public health. I think Mr. Groeniger has turned these ideas over and over in his mind in moments of reflection before offering this proposed national code. His extensive travels and opportunities for research have been concentrated on submitting the highest possible attainment in scientific plumbing, such as he offers in the illustration on page 457 of "Domestic Engineering," June 4, 1921. As a plumber of thirty years' experience I say unhesitatingly that, barring the cost of this job as planned by Mr. Groeniger, I find no fault with it. From the standpoint of both theory and practice it appeals to me as perfect as it can be devised by any man in the world. He has in

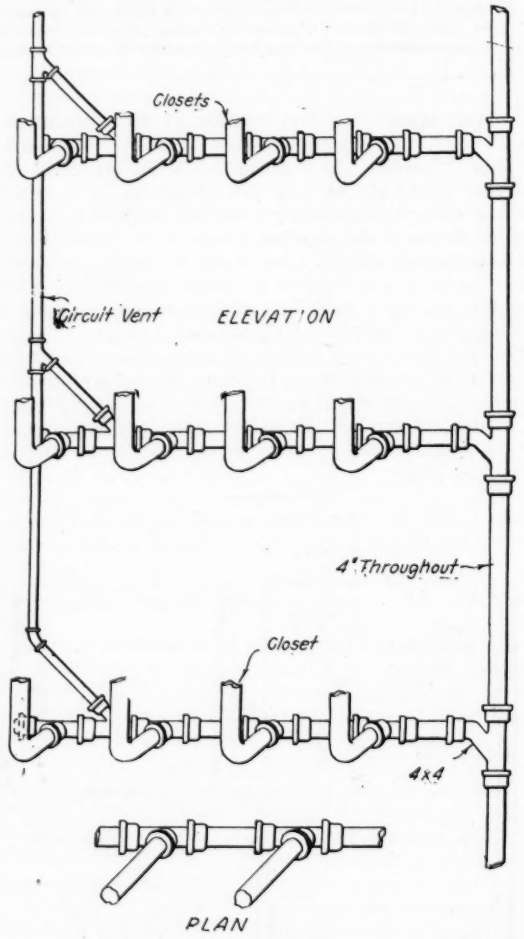



**Fig. 1.**

this arrangement given each floor an individuality and protection to which it is scientifically entitled. If one floor becomes clogged the others are not impaired. The fittings in the main stack are ideal, as whatever passes through them will continue down the stack. The heel elbow with 2-inch vent offers instant relief in the supply of air in case of a released stoppage on the first two floors. Increasing the size of the main stack would obviate the need, or rather give the equivalent of this 2-inch vent pipe. Lack of room forbids this in many instances. The Y arrangement leading to the circuit vent, free from the use of unnecessary fittings, cannot be improved upon. Any obstruction backing up into it would run out of its own accord. Taking the job as a whole, it would be perfectly sanitary.

What the overflow is to a closet tank; what a governor is to a stationary engine, or the air brake is to a train, Mr. Groeniger has given to this job in question, protecting a plumbing job no less. C. O. L.

Jacksonville, Fla.

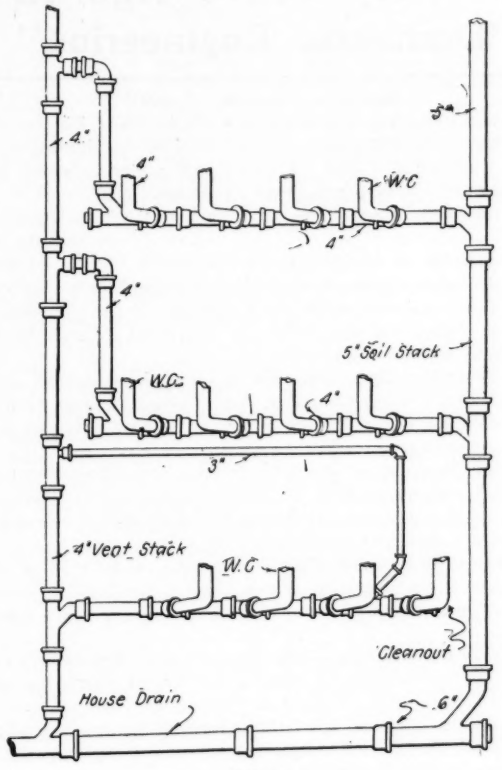



Fig. 2.

We thank C. O. L. for the frank expression of his opinion. We believe with him that his idea is in a certain respect more perfect than the plan exhibited by A. B., of Decatur, Ga. But we feel that A. B.'s plan is a very good one. In fact, one of the best posted sanitary engineers in the country has installed several jobs exactly the same as A. B.'s sketch and they have been perfectly satisfactory. His first installation in this order was over 15 years ago and the vent system has

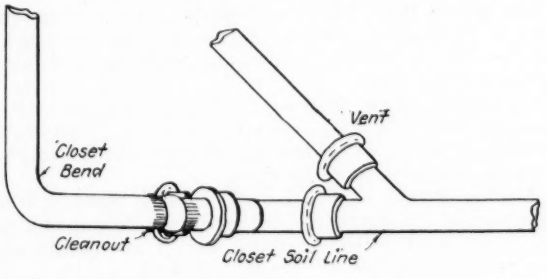
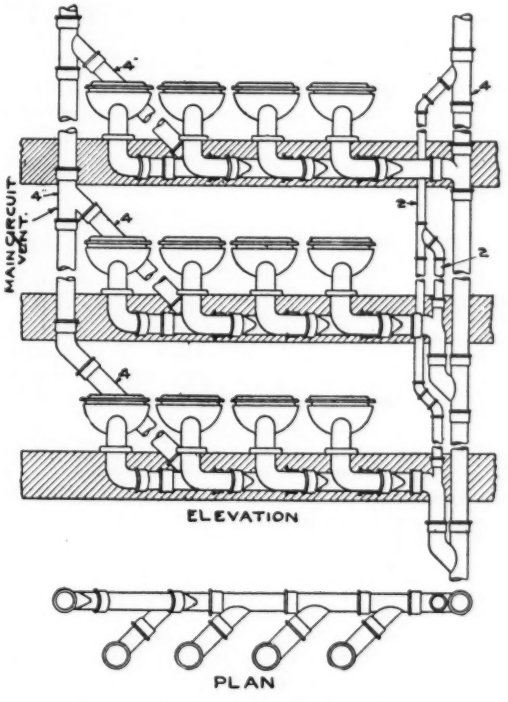



Fig. 3.

worked without a hitch ever since. He therefore talks not from theory, but from actual engineering experience. On these particular jobs, however, he connected the closets up substantially as shown in Fig. 2 herewith.

Studying Mr. Groeniger's sketches and A. B.'s sketches, also that of C. O. L., he is inclined to favor the method of taking the vent off the closet line as in Fig. 3, instead of the method shown in Fig. 2. He favors it, because there is less chance of the vent becoming clogged by a backing up of solids of which there is a possibility Therefore in this respect, he tells us he is under obligation to all three correspondents for bringing that particular point up. In his future installations he intends to make that improvement. He does not intend, however, to install the 2-inch air reliefs, which Mr. Groeniger shows in his standard sketch, unless of course he can prove to the readers of "Domestic Engineering" that these reliefs are really essential, and he says he will look forward to such an explanation, and he thinks there are other readers who would like to have "more light" on the subject. He also says that Mr. Groeniger is entitled to much credit for the able manner in




**Mr. Groeniger's Suggestion, Reproduced from June 4th Issue of "Domestic Engineering."**

which he is handling the proposed standard code series and he is sure that the trade is being benefitted thereby, perhaps more than Mr. Groeniger imagines. But to be of maximum value he should explain such points as seem at variance with current good practice and which may be brought to his attention, like the points referred to here.

## A SEPTIC TANK TO SERVE FIVE PERSONS.

Editor, "Domestic Engineering":—Will you kindly publish a sketch of a septic tank for a family of five persons?

There is a sink, two toilets and a wash tray in the house.

Connecticut. S. & D.

A plan view and a vertical longitudinal section through an all concrete septic tank suitable for five people are shown in Fig. 1. The writer has installed several septic tanks of this type, and they work well. Therefore he has no hesitation in recommending systems of this type where an all concrete tank can be conveniently made.

There are, of course, other tanks. You may see some advertised from time to time in this journal. They are "made-and-ready" so to speak, and are installed quite extensively by the plumbing trade. Write these manufacturers for their catalogs and prices.

In the event of your wishing to make an all concrete tank of the form shown in Fig. 1 to serve five people, we suggest the following capacity and dimensions.

The capacity as represented by the depth, X, should equal a 24-hour sewage discharge. That is a 24-hour water supply used by these people and ultimately discharged into the tank.

It is usually considered reasonable to allow from 30 to 50 gallons per person per day. To take care of wash day, let us base the capacity at a 50-gallon per person, per day rate.

That means 5x50 or 250 gallons shall be the capacity of the tank contained within the aforesaid depth, X, which is down half way on the sloping bottom.

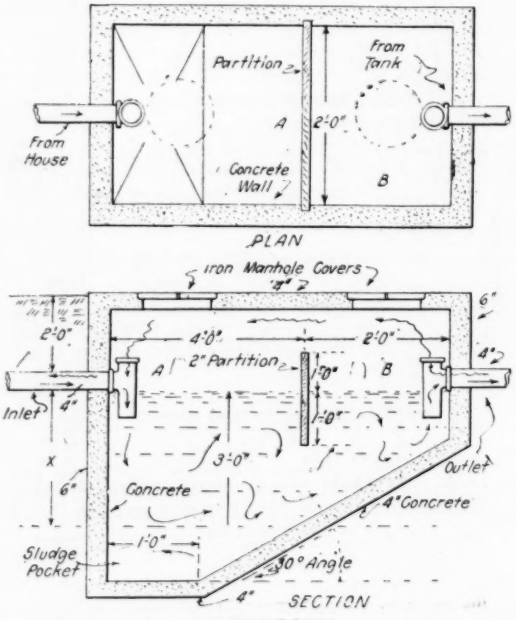



**Fig. 1.**

There are 7.5 gallons to the cubic ft. Therefore the capacity of X equals $\frac{250}{7.5} = 33.33$ cubic ft.

The length of tank should be at least twice the width. Three times is better. Assuming a width of 2 ft. and a length of 6 ft. we have a 12 sq. ft. area. Dividing 33.33 by 12 gives a mean depth of 2 ft. 9 inches. This means practically 3 ft. to bottom of X, the entire 3 inches in depth taking care of the upper part of the slope.

That part below depth X is really a sludge pocket and cannot be considered as a settling body of water. The actual settling of the solids takes place principally within the depth, X. The larger solids settle in chamber A. The smaller, and more flocculent matter that settles very slowly, precipitates in chamber B. What passes this chamber with the water is very fine indeed.

We prefer to have a baffle board, or partition, between chambers A and B as shown. This may be a 2-inch thick oak board, or piece of pavement. The sewage should enter the tank with an open T. This directs the sewage down toward the sludge pit.

The outlet should also be in the form of an open T so that it may draw the effluent from the quietest and clearest part. The tops of both of these tees should be open so that a current for ventilation may flow over the water in the tank, thence up the house drain and out through the vent stack at roof.

If the septic tank discharges into a series of underground field tile, as usually is the case, the air will work down through the ground, get into the field tile, then up to the septic tank. We think this helps the field tile to do its work better. It helps to aerate the disposal field, which is necessary to prevent it from becoming clogged with sewage blanket, or that grayish bacterial growth so common in choked sewers, etc.

# Twenty Years Ago in "Domestic Engineering"

**Saturday, December 14, 1901.**

**New Lights for Trains.**—The Oregon Short Line is experimenting with acetylene gas as a means for lighting cars. The Burlington, Santa Fe and a few other railroads are using acetylene as a substitute for Pintsch gas.

**Brass Men Meet.**—The Manufacturers' Association of Brass and Iron, Steam, Gas and Water Work held its annual meeting in Pittsburgh, December 10. A. D. Sanders was elected president to succeed A. F. Blesch, who has severed his connection with the Columbus Brass Co., and is taking charge of the Buick & Sherwood Manufacturing Company's plant at Detroit.

**In Successful Operation.**—The plant of the Universal Sanitary Manufacturing Company, New Castle, Pa., has been in operation for the past five weeks and is now ready to produce glost ware.

**Doing Business at the Old Stand.**—The Hays Manufacturing Company, of Erie, Pa., has rebuilt its plant above the ruins of the old plant, destroyed by an explosion November 9, and are now better equipped than ever.

**South's First Tube Plant.**—The tube department of the Alabama Iron Company, whose plant is located at Helena, fifteen miles south of Birmingham, is ready to begin operations.

**Big Year's Business.**—The Electric Heat Regulator Company, of Minneapolis, is closing the largest year's business in its history, and its plant is running day and night.

**Trade in Indiana.**—The three jobbing houses in Indianapolis are doing such a thriving business it is rumored that another jobbing house will enter the field there next year.

**Covering Massachusetts.**—William Greer, formerly advertising manager of the heating department of the J. L. Mott Iron Works, is now covering Massachusetts for the Mott concern.

**The Leading English Acetylenist.**—King Edward is a patron of acetylene lighting. Installation has been made at Sandringham Palace and is giving the utmost satisfaction.

**Bids for New Postoffice.**—Bids have been opened for the plumbing and heating of the new postoffice building at Peoria, Illinois.

**City Should Have Plumbing Inspector.**—The leading citizens of Birmingham, Alabama, believe the time has arrived for the city to maintain a plumbing inspector, and much agitation is the result.

**To Improve Sewer System.**—A resolution has been introduced in the Georgia legislature calling for a constitutional amendment which will enable the different counties to levy a special tax for sanitary purposes.

**Another Award.**—The Standard Sanitary Manufacturing Company, of Pittsburgh, has just received a diploma of highest award for porcelain enameled ware from the management of the exposition at Glasgow, Scotland.

**Death.**—C. W. Wilcox, for twenty years connected with the Crane Co., Chicago, in a responsible way, died December 13.

**Want Shorter Hours.**—The Journeyman plumbers of Gloucester, Mass., have started an eight-hour movement. At present they are working nine hours a day, and as there is little opposition to the proposed change, they expect to win.

**Compulsory Arbitration.**—New South Wales has just passed a law which compels employers and employees to arbitrate all disputes before a competent court; and a strike cannot be called previous to or pending such arbitration.

# THE NEWS OF THE DAY AND BUSINESS

**EDITOR'S NOTE:—By using one of these Editorials each week in your newspaper advertising you will help to educate your community in the true facts of plumbing and heating merchandising. Such education will create good will and build your business. The more the public knows the better your service will be appreciated. Take one Editorial a week and reprint it in the upper left corner of your regular advertising space. Have it set in bold-faced type, with rule or border around it, as indicated on this page. This will cause the Editorial to stand out and make it easy to read. The use of these Editorials from week to week will not add a dollar to your advertising expense, but they will help along sales.**

HERE is offered another kind of Advertising Editorial. It is the "Topical" or "Current Event" type. When rightly used—when tied up with the news or the thought of the hour—it makes very effective publicity. The reason this type is not more generally used is because few business men think of using the news of the day in their advertising until after the news has grown cold. The tie-up should be made while the news or thought is hot. The hotter it is the better it is.

The subject of the present editorial, "When Will Rents Come Down?" is likely to remain hot, or at any rate warm, for some time to come. Therefore, this editorial, with variations, could be used again and again. And the oftener a thought is used, the more sure it is of being driven home and clinched. To clinch a thought in the public mind is to start action.

A Series—No. 5.

**WHEN WILL RENTS COME DOWN?**

**THAT is the question. Everybody is asking, "When will rents come down?" The answer is that rents will come down just as soon as more houses are built. And not a day sooner. Rents, like everything else we spend money for, are controlled by the much-respected law of supply and demand.**

**Herbert Hoover says that at least 25 per cent of our income goes to pay the rent bill. This being true, cut your rent bill and, at the same time, help the unemployment situation by beginning now to build that home you have so long thought about.**

**As soon as you own your own home you will begin to pay to yourself the rent money you now pay to the man who owns the house you live in. Money in a home is like money in a bank. It grows, works for you, gives you security. The minute you own a home you are a better citizen—your veins fill with the spirit of possession.**

**Every man will fight for his home, but few men will fight for a rented house.**

The "Topical" editorial does three things. It stamps the user of it as a broad-minded, public-spirited business man; it is read with as much interest as newspaper editorials are read; it produces results either directly or indirectly.

There are three kinds of news or current thoughts that can be used to advantage in advertising editorials. The first is the news of national interest, the second is the news of state interest, and the third is the news of purely local interest. Each is good in its own way, but the local news is best of all. To tie your name and your business to a thought that is of great importance to the home town community—the community you serve—is to bring about a closer relationship between the people you know and the people who know you.

### A New Idea In Publicity.

Don't try to emphasize your business in an editorial. A quiet hint is enough. The fact that the editorial is a part of your advertisement connects it with your business. To try to do more is to spoil the effect.

The advertising editorial is a new development. It was never used until a few years ago. It came about through the desire of the heads of big business to express themselves. They had something to say and they believed they had a right to say it. Up until that time the belief was that politicians were the talkers, editors were the writers, and business men—O, well, business men were—well, they were just business men. They worked and planned, manufactured and sold, juggled figures and counted money, but they were not supposed to talk or write.

But there has been a change, and the change has wrought much good to business and the nation. The more business men talk and write—express themselves—say what they have to say—the better it will be for business.

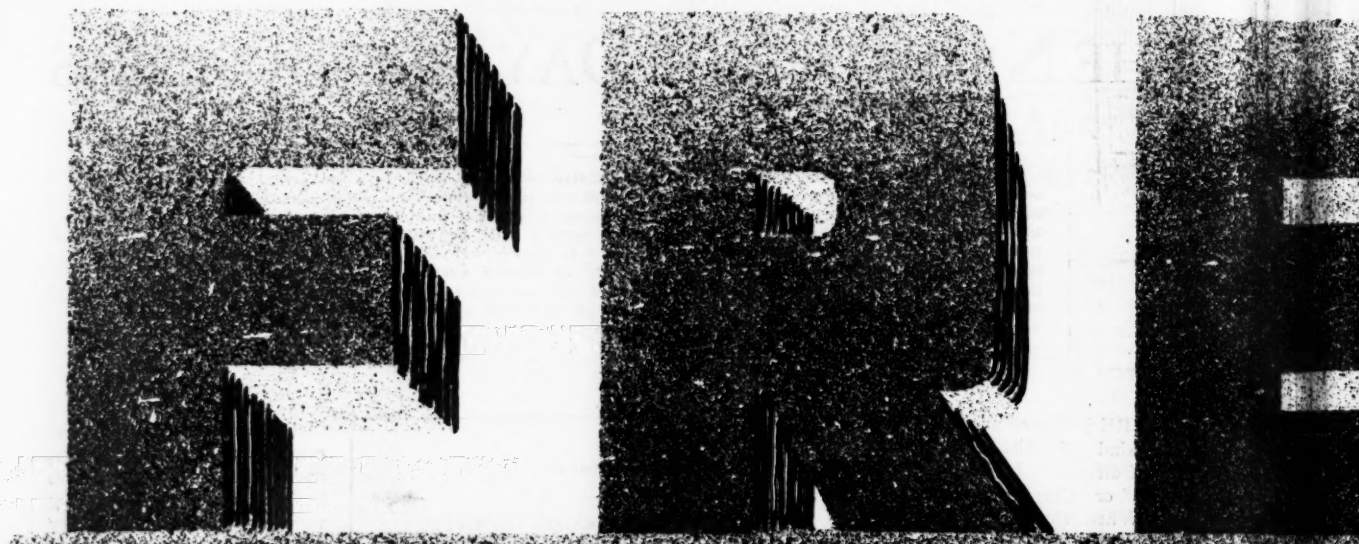
It will be a great day for plumbing and heating when dealers everywhere begin to use advertising editorials, get articles into their local newspapers, and stand up in meeting and talk. The world will never know what you know unless you let it know. For while silence may be golden, as the old saying would have us believe, it is a fact that silence never educated anybody. And what plumbing and heating need more than anything else is an educated public—a public that understands, and, because it does understand, appreciates the great work plumbers are doing.

In a certain southern state, not very long ago, a group of politicians started an agitation against a certain business. A few editorials plus a few good talks turned the tide, and in two months the politicians were forced to "hunt their holes." The business presented the true facts to the public, and the public is ever quick to sense the truth.

### The Public Wants the Truth.

The truth is one thing the public is always looking for. Big business has learned this and is profiting by presenting true stories. Give the true story of plumbing to the public and plumbing will add to its profit.

Every word printed or spoken in favor of building, or own your own home, or helping the unemployed, increases plumbing and heating in one way or another. All business is more or less related. When all the people are busy, all have money; and when all have money, all lines of trade are prosperous. The thing to do is to boost—boost all the time—for no matter who, what or when you are boosting you are in some way boosting your own. Keep your name and your worth before the public all the time.



BETTER NIPPLES FR

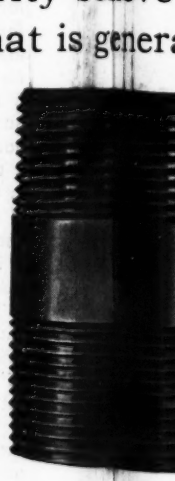
HIGH GRADE NIPPLES FRETZ FROM BRAND NEW PIPE

FROM the view point of many su
Contractors we judge that the majority believe
made from scrap or crop end pipe that is gener

New nipples make better jobs.

Where those little, troublesome leaks are liable to occur, the use of FRETZ Nipples eliminates the possibility.

FRETZ Nipples are made from the best grades of brand new pipe and in



S. S. FRETZ Jr. & CO.

# FRETZ

## FROM BRAND NEW PIPE

successful Plumbers and Heating
lieve in the use of NEW nipples instead of nipples
enerally full of rust or scale.

every operation they are frequently inspected to make certain of the gauge of thread and the size. These factors assure proper fit and the elimination of little troubles so common when cheap, inferior nipples are used.

FRETZ Nipples are made in sizes from $\frac{1}{8}$-in. to 12-in. inclusive.

HIGH GRADE NIPPLES FRETZ FROM BRAND NEW PIPE

:-: PHILADELPHIA

ing when writing advertisers.

Exchanging Ideas is the Foundation of Progress

# What Associations Are Doing

Through United Effort the Individual Succeeds

**Illinois Chapter, A. S. H. and V. E., Discusses Air Conditioning at December Meeting.**

What was declared to be the best attended and most interesting meeting of the Illinois Chapter of the American Society of Heating and Ventilating Engineers, was held at the Engineers Club, Chicago, Monday evening, December 12th. Air conditioning was the subject for discussion by the seventy-five members present. Samuel C. Bloom was chairman of the meeting, and gave a short general talk on the importance of air conditioning.

Previous to the regular talks of the evening, the secretary, H. G. Thomas, read the minutes of the last meeting and read the treasurer's report which showed an ample amount on the right side of the ledger. He also read a letter of condolence sent to the widow of the late J. P. Dugger, and called attention again to the hot water heating layout competition which will end January 15th, and be the subject for discussion at the February meeting.

President J. A. Cutler announced that an invitation had been extended the Illinois Chapter to have the American Society hold its summer meeting in Chicago, but it was finally decided to withhold Chicago's bid for the meeting for the time being at least.

On a motion to appoint a committee to stimulate interest in the coming winter meeting to be held in New York, January 24, 25 and 26, President Cutler moved that Ben Nelson be chosen as chairman of such a committee and that he appoint two members to help him to secure a good attendance. The winter meeting will be held at the Pennsylvania Hotel, where, as Mr. Cutler stated, they have "every accommodation, even a golf course."

Mr. Bloom then took charge of the meeting and in his introductory remarks called attention to the importance of simplicity in design and the reliability of the apparatus used in connection with air conditioning work. Two other points to be considered, he said, were the sensible heat and the latent heat, the former being the more important of the two.

S. R. Lewis, the first speaker of the evening, spoke on air conditioning in sausage plants. His work in this line was done at the stock yards in Chicago where tons of sausage are prepared for shipment. The old apparatus in use at the yards was very cumbersome and required the constant attention of a number of men. It was found that the old system did not produce a high quality of sausage, and that in some instances where the air was not kept at a certain temperature and at a certain percentage of relative humidity fungus formed on the outside, which necessitated the waste of considerable time in washing and re-washing. The racks on which the sausage was hung up to dry were changed around a number of times during the course of a day, which was not only troublesome but also had a tendency to produce an inferior product. Taking all these things into consideration, Mr. Lewis hit upon a scheme whereby all of these details were eliminated. His apparatus consisted of a small refrigerating plant delivering air at 50 degrees temperature and 65 or 70 per cent humidity. This air was delivered through ducts at the ceiling and the floor with registers delivering the air from the top downward or from the bottom upward, with regulating dampers to direct the flow. The system is well balanced and has proved satisfactory.

Air conditioning in bakeries was discussed by C. T. Morse, who found that a great deal of the trouble in bakeries was in the dough-mixing departments. Here, he said, improper ventilating, varying temperatures, and lack of humidity resulted in too crusty bread or lumps in the dough. In these rooms temperature and humidity were important factors in raising the dough. Yeast, he pointed out, was found to produce better bread if the temperature was kept at 80 degrees and the relative humidity at 72 per cent. Another factor to be taken into consideration, as pointed out by Mr. Morse, is the reaction which takes place after the apparatus is installed, and the metals and materials used. This was found to be very important especially with bread-mixing machines. The rotation of the mixing machine produced more heat than was required for the proper mixing of the dough and interfered with the quality of the bread. To eliminate this excessive heat to some extent the arms which mix the bread were made of hollow cast iron filled with water. The cooling effect of the water produced better bread and eliminated to some extent the lumps which would form because of lack of uniformity in heat and moisture.

C. H. Currier showed interesting slides along with his talk on drying varnish. These slides dealt mostly with automobile drying plants, showing the method of applying the varnish and the method of drying. His talk and slides were of great interest to the members.

The last speaker of the evening, and about whom most of the discussion centered, was E. P. Heckel, who spoke on air conditioning in airplane factories, spinning mills, pill factories, etc., and illustrated his talk with slides. Serious problems were met with in airplane factories where exactness in temperature and humidity is necessary to keep the wood used in the construction of the machines at the right moisture content. Other problems were encountered in the spinning mills where humidity control was essential in keeping the yarns from becoming brittle and unworkable. The elimination of brittle products was also of considerable importance in sugar-coated pill factories, where it was found that a certain temperature and a certain per cent of relative humidity were necessary to accelerate production and to make a better quality pill.

Theatre ventilation was also considered by Mr. Heckel. A sketch of a theatre job which he prepared caused a lively discussion. Mr. Heckel's plan was to divide the auditorium into four sections or zones and to treat them as separate installations. There would be four fans to regulate the amount of air supplied to the room. Instead of using the mushroom system to pass air into the room under the seats, it was Mr. Heckel's idea to use the muchrooms to exhaust the air eliminating, he said, any dust that would be stirred up by the air entering at the floor. In his plan, the air would be admitted through the ceiling at a velocity of from 250 to 350 ft. per minute, and would be uniformly distributed at the ceiling. The air in the auditorium would also be exhausted through ducts provided under the floor of the balcony. This method of entering the air would cause

no drafts, he said, and pointed out that the rise in temperature based on 25 cu. ft. of air per minute per person would be approximately 11¼ degrees.

A lively discussion was entered into by several members when Mr. Heckel had concluded his talk. The first to rise was Harry M. Hart, who questioned the practicability of the system. His first point brought out was the use of the floor of the balcony for discharge ducts. If discharge ducts were to be installed under the balcony floor, Mr. Hart contended that the entire structure would have to be built about 4 ft. higher, thereby adding to the cost of the structure and other mechanical features. Mr. Hart also objected to the manner in which air was admitted into the auditorium. It has been his experience, he said, that with air being discharged at the floor it came in contact with the rising sensible heat from the audience at the line of vision and produced objectionable heat waves.

In reply to Mr. Hart's contention regarding heat waves, Mr. Heckel said that was a point the overhead method of air delivery takes advantage of as it permits a dilution of the delivered cold air with the heated air rising so that the air delivered will raise 11¼ degrees before it reaches the breathing zone, and in this way differs from the bottom mushroom delivery method which does not permit the necessary rise in temperature before coming in contact with the audience.

### Prof. A. C. Willard Addresses Western New York Chapter A. S. H. & V. E.

The fact that Prof. A. C. Willard of the University of Illinois was to be the principal speaker at the regular monthly meeting of the Western New York Chapter of the American Society of Heating and Ventilating Engineers brought out an attendance of 115 members and guests. The meeting was held Tuesday evening, December 6th., at the Engineering Society Club, Buffalo, N. Y. Another prominent speaker at the meeting was Architect Ittner, of St. Louis, who has designed some of the finest school buildings in the country and is at present consulting architect on the school program in the city of Buffalo, which will amount to approximately $25,000,000.

Following the dinner, which was served at the Club, Prof. Willard addressed the members illustrating his talk with stereopticon slides. He spoke at length on the work he has accomplished and the tests he has made for the National Warm Air Heating and Ventilating Association, and his findings on the work were most interesting. He not only gave facts concerning efficiency and non-efficiency, but illustrated and described reasons for the non-accomplishment of certain work by certain apparatus. He also gave a few interesting facts concerning ventilation in the New York tunnel system, but did not go into this subject at length, as tests are just being made.

Mr. Ittner spoke briefly on the work that architects have to accomplish in connection with engineers. He dwelt on the accomplishments of engineers in recent years and their ability to become business men, thereby assisting not only the profession but all lines of industry which call for technical knowledge.

After the meeting had adjourned the members and their guests were served refreshments in the club rooms of the Engineering Society.

### Endicott-Union Association Elects Officers for 1922.

Officers for the year 1922 were elected at the annual meeting of the Master Plumbers' Association of Endicott-Union, New York, held Tuesday, December 6th. S. J. Evans was elected president; C. W. Rishel, vice-president; C. L. Titus, treasurer, and F. E. McCormack re-elected secretary. The retiring officers were George Toulson, president; F. V. Parton, vice-president; Charles Rishel, treasurer. Twenty members and their wives attended the banquet which was held in the Hotel Frederick following the meeting. George Cropper, of Binghamton, state vice-president, was present and delivered an address on Association Work. George Toulson, retiring president, was toastmaster for the occasion and called for talks from almost everybody present. The evening was rounded out with a bowling match which lasted well on to midnight.

### Bronx Master Plumbers Studying the Problem of the Helper.

The Bronx Association of Master Plumbers, one of the five Borough Associations of Greater New York, has been studying ways and means to mitigate the insistence of the unions that there shall be only one helper to each two journeyman plumbers.

"We contend that there should be one helper to each plumber," said Charles W. Kirchoff, president of the Association, in a recent talk with a representative of "Domestic Engineering." "At the present time, with only one helper to two plumbers, if one of them sends him away on some errand, the other, wanting help, has either to act as his own helper or wait for the man's return. Either course imposes a burden upon the employer which we contend is unfair as it means that the latter is paying for a high priced man and using him as a helper for part of the time. In some cases quite a considerable portion of a man's day is spent in this way.

"The union is trying to go one better," added Mr. Kirchoff, "by arguing that there should be only one helper to each three plumbers, but that is probably a policy of merely going one better than the other side. One helper to three plumbers—the idea of course is to increase the number of well-paid jobs—is an unthinkable proposition. The fair ratio is one helper to each plumber and on that basis the two men would work together in double harness with satisfactory results all round."

"The unions are trying to get the number of well-paid jobs increased," said a leading Manhattan plumbing contractor who did not care to be quoted personally: "There is a certain amount of hardship in the case of men who are years overdue and can't get their card and thus have to go on working as helpers. But that is the fault of the union in only issuing such a limited number of cards each year. On the other hand it is absolutely unfair to the master plumber that he should be paying for a skilled man at the high rate of wages prevailing and then have to use him part of the time as a mere helper to fetch and carry. That's a condition which obviously can't last.

### Trade Extension in Goldsboro, N. C. and Norfolk, Va.

Master plumbers in Goldsboro, N. C., and eight surrounding towns, turned out in full force on Monday, December 5th, for the Trade Extension Day in that district. Goldsboro, Wellington, Newbern, Kinston, Greenville, Wilson, Zebulon, Rocky Mount and Smithville, were all well represented.

J. C. Greenberg, fieldman for the National Trade Extension Bureau, spoke for more than two hours on "Successful Business." His blackboard illustrations in connection with the lecture, were simple and to the point. "Business," he said, "is a matter of understanding, and the better the understanding, the better the business. Price fixing is no remedy. The price is always right, if the man behind the business is all right. When a journeyman starts into business he ceases to be a muscle worker, and becomes a brain worker. If one does not know how to use his brain, failure is almost inevitable."

North Carolina has a progressive association, and the state secretary, D. L. Griffin, is to be congratulated on his efficient work.

On Wednesday night, December 7th, the master plumbers of Norfolk and vicinity had a very successful meeting. J. C. Greenberg was also the speaker on this occasion. After a brief introduction by President Murphy, Mr. Green-

berg was given the floor. "After all," Mr. Greenberg said, in part, "what is the use in calling ourselves master plumbers when we are in reality not masters of our business. We are not masters because we have an idea that it is too hard to think and to do business in a masterful manner. In order to be a master, we must do the right thing, the right way, at the right time, in the right place, with the right spirit. We do not do these things. The right way to do business is to be a business man. You cannot slip into your overalls and be a journeyman selling his time to himself for ninety cents an hour, and demand a business man's profit. You cannot stay in business unless you have your place of business where the public can see you. You cannot run a business by guess if success is your goal."

**The Chicago Master Plumber and the Landis Award.**

So much misrepresentation of the Master Plumbers' attitude toward the Landis Award has been made in the public press and through the medium of the Monthly Bulletin of the Illinois Society of Architects, that we feel it our duty in justice to our Association and its members to refute those articles and present for the information of the architects and the citizens of Chicago a brief statement of our position.

Without a desire to enter into any controversy on the subject, we will state that following the six weeks refusal to work on the part of the journeyman plumbers when they refused to accept the wage award of 95c per hour made by Judge Landis, on the evening of October 18th at joint arbitration meeting of the Master Plumbers, Journeyman Plumbers and Journeyman Gas Fitters, it was agreed to submit the following resolution for ratification to their respective associations:

"Whereas, The difference now existing in the Building Industry between the Contractors' Associations and the various unions of workmen employed in this industry have been brought about by these Associations seeking to find some means of reviving said industry for the general good of the community, and

"Whereas, The present attitude of the contending parties, both seeking to improve conditions for all concerned is not benefitting any one, and

"Whereas, That portion of the building public who are now engaged in erecting buildings are through no fault of theirs suffering loss and inconvenience on account of existing conditions, and

"Whereas, The employers and workmen are in a like situation and that part of the public who now need our services are forced to suffer through the present contention, and

"Whereas, The existing deadlock between the Employing Plumbers and their workmen is causing a great loss and in view of the fact that at this time no effective means is in sight to break the deadlock, therefore be it

"Resolved, That the Joint Arbitration Boards of the Chicago Master Plumbers' Association and the Chicago Journeyman Plumbers' Protective and Benevolent Association and the Chicago Gas Fitters' Association do hereby agree to call a special meeting of our respective Associations on Thursday, October 20th, 1921, to consider the following proposition and if acted on favorably that the following agreement regarding wages be in force.

"The parties hereto agree that the wage from date work is resumed shall be $1.10 per hour, and the parties hereto agree that this being jointly approved shall become effective and work resumed at once."

Before adopting this resolution the entire situation as affecting the plumbing business was presented to the Building Construction Employers' Association and also to the President of the Illinois Society of Architects both of whom were in close touch with the situation and each of whom was requested to arrange for a conference with Judge Landis so the situation could be submitted to him, but neither of them were successful in doing so.

In any explanation of our position it should be borne in mind that the journeyman plumbers were the only trade on strike following the Landis Award, and the partly finished work of our members who were anxious to be loyal to that award, was being covered up by the other trades.

Neither should it be forgotten that our Association does not comprise all of those engaged in the plumbing business, and those outside of the Association as well as a number of Association members who signed individual agreements with the Journeymen, were all during the strike paying Journeyman Plumbers at the rate of $1.25 per hour, with the result that probably 60 per cent of the Journeyman Plumbers were employed, and to the detriment and financial loss of our loyal members. Many of the employing plumbers who before the strike employed only one or two men were successful in obtaining work from owners that had been contracted for by our members but which work our members had been forced to release on account of being unable to get men at the Landis Award. This work of our members being turned over to these so-called employing plumbers were then able to employ as many as ten or fifteen Journeyman Plumbers by paying a rate demanded by the Journeymen of $1.25 per hour. This was caused by the anxiety on the part of the owners to have their buildings finished.

In the meantime building work was going on, new projects were being started by builders and owners paying wages regardless of the Landis Award. They were insistent that their work proceed, and many of our members were threatened with lawsuits and forced to complete their contracts.

Under these circumstances and with pressure being brought to bear upon us from all sides and support from no one, there was no alternative but to make an agreement with the Journeyman Plumbers and without any attempt at camouflage or secret understanding, settled on a basis of $1.10 per hour, and as many of the journeymen were then and are now being paid $1.25 per hour, we felt and still believe that we were perfectly justified in making an agreement to pay the men $1.10 per hour.

If some of the building public of Chicago had been one-half as loyal to the Landis Award as the master plumbers, the labor situation we are firmly convinced would have been cleared up long ago and there would have been no need of appointing a citizens' committee to enforce the Landis Award.

It should be stated that outside of the wage clause our Association is, in all respects, living up to the Uniform Agreement and the Working Rules of the Landis Award.

Respectfully.
Chicago Master Plumbers' Association,
J. C. Naughton, President.
P. M. Murphy, Chairman Arbitration Committee.

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The above is a copy of a letter sent out by the Chicago Master Plumbers' Association under date of Nov. 29th, in explanation of its stand on the Landis Award.

**New Orleans Master Plumbers Elect Officers for 1922.**

The Master Plumbers' Association of New Orleans, La., held its annual meeting on December 5th, and elected the following officers for the ensuing year: President, J. R. Lawton; vice-president, Edward Aitken; treasurer, A. H. Grimaldi; secretary, L. C. DeLeon; sergeant-at-arms, Thomas G. Lynch. The association is planning to hold two meetings every month, the first one devoted to business and the second to education. Prominent speakers will be secured to address the members on such topics as advertising, commercial law, business management, cost accounting, merchandising, etc. The association has just donated $50 to the erection of a factory for the blind.

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"Domestic Engineering" would like news of your association.

January 17 and 18, 1922.—The 28th annual convention of the Wisconsin Master Plumbers' Association, to be held in the Gold Room, Hotel Wisconsin, Milwaukee, Wis.

January 24, 25 and 26, 1922.—The twenty-eighth annual meeting of the American Society of Heating and Ventilating Engineers, to be held in the Engineering Society's building, 29 West Thirty-ninth Street, New York City.

February 6, 7 and 8, 1922.—The annual convention of the Minnesota Retail Plumbers' Association. The city, where the convention is to be held, has not yet been announced.

**February 14, 15 and 16, 1921.—The annual convention of the Ohio State Association of Master Plumbers, at Canton, Ohio.**

February 20, 21 and 22, 1922.—The annual convention of Nebraska Retail Plumbers' Association, at Omaha, Neb.

March 7, 8 and 9, 1922.—The annual convention of the State Association of Master Plumbers in North Dakota, at Grand Forks.

**March 13, 14 and 15, 1922.—The annual convention of the Indiana Society of Sanitary Engineers to be held at Indianapolis.**

March 27 and 28, 1922.—The annual convention of the Kansas Master Plumbers' Association, at Salina, Kansas.

April 10, 11 and 12, 1922.—The annual convention of the Oklahoma State Association of Master Plumbers, at Shawnee, Okla.

April 18, 19 and 20, 1921.—The next annual convention of Iowa Master Plumbers' Association, in Mason City, Iowa.

May 2 and 3, 1922.—The annual convention of Colorado Society of Sanitary and Heating Engineers. It has not yet been decided where the convention will be held.

May 12 and 13, 1922.—The annual convention of the Association of Master Plumbers of the State of Washington, at Tacoma, Wash.

May 15, 16 and 17, 1922.—The annual convention of the Kentucky Association of Master Plumbers, in Ashland, Ky.

May 22, 23 and 24, 1922.—The annual convention of the State Association of Master Plumbers of California, at Sacramento, Calif.

June 6, 7 and 8, 1922.—The fortieth annual convention of the National Association of Master Plumbers, in Detroit, Mich.

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The Master Plumbers of Alameda, on the east side of San Francisco Bay, have petitioned the city council to impose a fee of $25 on plumbers of San Francisco, Oakland and other cities, who come to Alameda to ply their trade. Such action, according to A. R. Cranston, master plumber would serve as a protection for resident plumbers and also guarantee the quality of work done in the city. No action has been taken on the petition.

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A. Grimard, 214 Bremer Street, Manchester, N. H., has the contract for installing heating and plumbing in ten houses to be erected on Cilley Road and Beech Street in that city for Wilford Messier.

Architect and Engineer Henry Bittman, Securities Building, Seattle, Wash., will prepare plans for a proposed business block to be built near the corner of Second Avenue and Pike Street, between Pike and Pine Streets, for William Grimshaw of Seattle. Details of the structure are not completed, but it is known that the building will be 50x120 ft., probably three stories high, of concrete and steel construction. It will cost about $100,000.

**Charles C. Berwick.**

Charles C. Berwick, who has been conducting a plumbing business in Berkeley, Calif., for twenty-five years, died at a hospital in San Francisco on Saturday, December 3, from injuries received by an accident while on a duck-hunting expedition near Giant, in Contra Costa county. Following the accident, in which he suffered a gunshot wound through the right hand, Mr. Berwick was rushed to a hospital in San Francisco, where it was found necessary to amputate his arm, but he failed to rally from the operation. He was born in Scotland, 51 years ago. His wife and three sons survive him.

**John J. Nolan.**

John J. Nolan.

John J. Nolan, of the plumbing firm of Nolan Bros., Washington, D. C., died in New York City on Saturday, November 26th, after a short illness. Mr. Nolan was a graduate of St. John's college in Washington, D. C., and he had also taken a course in law at Georgetown University. Having thus secured a good education, he joined in partnership with his father and brother in the plumbing business of James Nolan & Sons, which business later became known as Nolan Bros., the other partner being Walter D. Nolan, past-president of the National Association of Master Plumbers. In his younger days the late Mr. Nolan was a well-known athlete, rowing in a number of races representing the Potomac Boat Club of Washington, D. C. At the time of his death he was president of the Potomac Boat Club for his third consecutive term and vice-president of the Southern Rowing Association, also secretary of the National Association of Amateur Oarsmen of America, having been elected to this office two consecutive terms. His sunny disposition and his sterling character and high ideals won him many friends who will receive the news of his death with deep regret. The Master Plumbers' Association of the District of Columbia attended his funeral in a body, and the Maryland State Association of Master Plumbers also sent a delegation. His widow and one daughter survive him.

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**Optimistic forecasts** were made a year ago regarding the international trade balance of Great Britain. It now appears that contrary to 1920, the 1921 balance will be unfavorable, due to trade depression and decreased freight earnings. The Board of Trade estimated shipping earnings for 1920 at £340,000,000. But experts figure that 1921 will only produce £60,000,000 to £70,000,000 from this source. Added thereto we have estimates of income from investments of £120,000,000 and from banking and other services of £40,000,000 which give a total of £225,000,000 on the credit side to balance £280,000,000 excess imports. Consequently an unfavorable balance of £55,000,000 for 1921, as compared with an estimated favorable of £165,000,000 for 1920.

**Fire losses in the United States** and Canada during November, according to the Journal of Commerce, totaled $26,178,600 as compared with $28,093,350 for same period last year.

# AMONG THE WHOLESALERS AND MANUFACTURERS

### NEW SUPPLY HOUSE IN LYNCHBURG, VA.

The Wachter-Possin Company, Lynchburg, Va., has recently been organized with a capital of $25,000 and has started in the plumbing and heating supply business at 801 Main Street in that city. G. A. Possin, of Roanoke, is president, and L. C. Wachter, of Lynchburg, is secretary and treasurer.

### OPENS BRANCH IN WINSTON-SALEM, N. C.

The Roanoke Plumbing & Mill Supply Co., Roanoke, Va., has recently opened an office and showroom, with warehouse facilities, in Winston-Salem, N. C. The new branch will be in charge of T. T. Nance. Officers of the company are L. U. Noland, president and treasurer; A. J. Kennard, vice-president; and R. C. Beaver, secretary and general manager.

### ERECTING NEW BUSINESS HOUSE.

The Hirschfield & Mayer Company, 135 Oliver Street, Boston, is constructing a business building in the Allston district of that city for the new home of its plumbing and heating supply business.

### ORGANIZING WATER FILTER COMPANY.

The Chamber of Commerce of Rockdale, Tex., is organizing a company in that city to establish a plant for the manufacture of water filters and kindred products. The new company will be capitalized at $50,000.

### NEW POWER HOUSE FOR TYLER PIPE & TUBE CO.

The Tyler Pipe & Tube Co., Washington, Pa., has had plans prepared for the construction of a one-story power house and producer plant, 25x50 ft., and 50x50 ft. estimated to cost $50,000.

### NEW PIPE COMPANY PLANNED FOR THE SOUTH.

Morris W. Bush and associates, of Birmingham, Ala., who recently purchased the plant and equipment of the Talladega Foundry & Machine Company, Talladega, Ala., are said to be planning the organization of a company under the name of the Talladega Pipe Company, capitalized at $100,000, to operate the plant. A section of the works has been placed in service and it is proposed to begin production in other departments at an early date.

### DECLARES QUARTERLY DIVIDEND.

The Goulds Mfg. Co., Seneca Falls, N. Y., has declared its regular quarterly dividend of 1½ per cent on its common stock, and 1¾ per cent on its preferred, both payable January 2, 1922, to stock of record December 20, 1921.

The Youngstown Sheet & Tube Co., Youngstown, Ohio, has declared a quarterly dividend of 1¾ per cent on its preferred stock, payable January 2 to stock of record December 30, and 50 cents on its common stock, payable January 2 to stock of record December 20.

### NEW LOCATION FOR M. E. CONRAN CO., INC.

The M. E. Conran Co., Inc., Brooklyn, N. Y., will soon move into its building at Warren and Columbia Streets, from the present place of business at 47-49 Bergen Street. The building which will house the business was formerly occupied by the Shipley Construction & Supply Co., and offers the Conran company many advantages, in that it contains nearly twice as much floor space and is improved with railroad sidings and loading plaforms.

### C. C. HALE CALLED BY DEATH.

C. C. Hale.

C. C. Hale, president of the plumbing and heating supply house of Peck Bros. & Co., of New Haven, Conn., died at his home in that city last week after an illness of ten months from high blood pressure. Charles Comstock Hale was born in Guilford, Conn., 53 years ago and served the first part of his business career in the wire business. He was superintendent of one of the plants of an Ansonia wire concern fifteen years ago, when he was called to New Haven to fill the position of general manager of Peck Bros. & Co. In the latter capacity he displayed such a high degree of efficiency that the directors of the company decided, a year and a half ago, to elect him to the presidency of the concern. For ten years the company had been operating without a president, and there had never been any move made to fill the vacancy caused by the death of the former incumbent of that office. As general manager, Mr. Hale had been performing several of the functions of president, and it was felt that no change in the situation was necessary. A year and a half ago, however, the directors, in appreciation of his faithful and able services, and as a mark of their esteem, voted to make him the titular head of the company. Mr. Hale had many friends among the plumbing supply jobbers throughout the country and was very popular in the associations of the supply men, partly because of his magnetic personality, and partly because it was realized that he was always ready, in fact eager, to do his bit toward promoting the best interests of the industry. He was buried in Guilford, the town of his birth, and the funeral services were attended by all the executives of Peck Bros. & Co., and the entire clerical staff. Mr. Hale is survived by his wife, a daughter and a son.

### SANDS MFG. CO. TO HAVE NEW FORGE SHOP.

The Sands Mfg. Co., Cleveland, Ohio, is planning the construction of a forge shop in that city. The structure as planned will be 35x100 ft.

## ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF BRASS MANUFACTURERS.

### Held in New York City December 9th. L. D. Lawnin, of St. Louis, Elected President.

The annual meeting of the National Association of Brass Manufacturers was held at the Hotel Astor, New York City, Friday, December 9th, with thirty-six members present. President A. I. Fisher, of Cleveland, opened the meeting at 10 o'clock Friday morning, and Commissioner William M. Webster read the minutes of the last meeting of the Association, held in Cleveland. President Fisher reported on business conditions throughout the country, saying that if half of the work contemplated was started, all the manufacturers present would be taxed to capacity.

Report No. 80 of Commissioner Webster was then taken into consideration. The first subject to be disposed of was that of the place and date of the next meeting. It was decided to hold the next meeting in Cleveland on Tuesday, Wednesday and Thursday, March 7, 8 and 9, 1922. The second subject was that of guarantees on long time orders. It was recommended that goods be shipped within 90 days from date of order. The third subject dealt with was the National Bureau of Standardization. Adolph Mueller, who attended the meeting of the National Bureau of Standardization, which comes under the Building Codes Committee formed by Secretary of Commerce Hoover, reported on the meeting and read a clipping from a Boston newspaper on the Wonders of Standardization. It was recommended that the Association appoint a committee on standardization to confer with the National Bureau. The fourth subject in Commissioner Webster's report was the financial report. The report showed the Association to be in good financial condition, and it was recommended and approved that because almost everything was getting back to normalcy a substantial reduction in the dues for 1922 be made.

The report on standardization was read by Fred Schulder in the absence of the chairman of the Standardization Committee.

The matter of all forms and kinds of china handles was referred to a special committee of three, consisting of Messrs. Schulder of Ohio, Ottke of Pennsylvania and Speakman of Delaware, with power to act, and the question of changing the size of cock holes for earthen and vitreous lavatories from 1¼ to 1⅜ inches was also referred to the same committee. The elimination of all solid flange bibbs of male type is under consideration. The slope of bath tub backs was referred to manufacturers of both enameled and earthenware bath tubs.

Mr. Mueller then reported on the Water Works Standardization Committee, and told of the progress that committee was making. Among other things in his report he touched on metal fixtures, lead flange couplings and threads, and told of the savings that could be effected by the water works companies.

In his report on the National Trade Extension Bureau, Harry Speakman suggested that the Director of the Bureau have an advisory committee of two, representing the brass goods manufacturers. Adolph Mueller of Illinois and Carl Legner of Pennsylvania were appointed to act as an advisory committee.

Following dinner, which was served to fifty-five members and guests, William J. Woolley, secretary-manager of the National Trade Extension Bureau, spoke briefly concerning the work of the Bureau. He was followed by Harry Collins Spillman, the principal speaker for the occasion. In his talk, Mr. Spillman called attention to the fact that the people of today think too much in horse-power instead of man-power, not giving enough attention to the development of the men in the industries. "We have relied too much on our belief in industry," he said, "and have not used our minds. We haven't developed our minds as much as our machinery. In this age of machinery when everybody talks in terms of horse-power we have lost our command of the language."

After the reading of correspondence, which included the announcement of the death of Charles C. Hale, president of Peck Bros. & Co., New Haven, Conn., and the appointment of a committee to prepare a letter of condolence to the widow of Mr. Hale, the election of officers was held, and resulted as follows:

President, L. D. Lawnin, Missouri, president N. O. Nelson Mfg. Co., St. Louis, Mo.; first vice-president, R. B. Hills, secretary The Haydenville Co., Haydenville, Mass.; second vice-president, H. F. Albers, president Globe Brass Mfg. Co., Cleveland, Ohio; other members of the executive committee are: R. L. Ottke, manager of sales, brass department, Standard Sanitary Mfg. Co., Pittsburgh, Pa.; A. C. Brown, president Chicago Faucet Co., Chicago, Ill.; R. H. Smith, secretary E. Stebbins Mfg. Co., Springfield, Mass.; J. B. Brazier, president Powhattan Brass & Iron Works, Ranson, W. Va.; Carl Legner, vice-president Haines, Jones & Cadbury Co., Philadelphia, Pa.; T. J. Forbes, sales manager McShane Bell Foundry Co., Baltimore, Md.; and Wm. M. Webster, commissioner, Chicago, Ill.

A resolution was adopted endorsing the general retail sales tax as voted by the Chamber of Commerce of the United States.

The meeting then adjourned to meet in Cleveland next March.

## THE REAL STATUS OF THE NATION'S FOREIGN TRADE.

Lower prices rather than diminished quantities, are responsible for the three billion dollars decline in the value of American foreign trade in the last fiscal year, as compared with the immediately preceding year in the opinion of Dr. Julius Klein in his first annual report as Director of the Bureau of Foreign and Domestic Commerce of the Department of Commerce.

"In fact," says the Director, "a compilation of exported commodities, reduced, so far as possible, to a quantity basis, shows weight increases of 34 per cent for the groups of raw materials and of 37 per cent for foodstuffs in 1921 over 1920, with a decrease of 4 per cent for such partly or wholly manufactured articles as can be shown in weight."

"It will surprise many pessimists to learn," declares Dr. Klein, "that the final totals in this compilation, which included articles forming 69 per cent of the value of domestic exports in 1921, indicated that the exports of these goods increased 23 per cent in quantity over the amounts sold last year, though their value decreased 19 per cent.

The world-wide exchange situation, revived competition in foreign markets, and decreased demand for American raw materials on the part of Europe, combined with a drastic cut in American imports of raw materials are the principal factors contributing to the lower foreign-trade totals, says the Director.

The Director refers to the fiscal year 1920-21 as "the most dramatic in the entire history of the foreign trade of the United States." He says "that the extraordinary episodes of that year in our business overseas" resulted in a most severe strain upon the facilities of the Bureau of Foreign and Domestic Commerce, first, as a consequence of the "amazing strides" made by American exports interests during the early months of the year and secondly, as a result of the disorganization and confusion which spread throughout the markets of the world with the accompanying panic of cancellations during the period of depression which marked the closing months of the year.

A new and unusual feature of Dr. Klein's report is a 60-page review of world trade and of economic conditions in each of the important markets of the world.

## NEW CONSTRUCTION WORK.

The following are among the most important contracts recently awarded as reported by the "American Contractor:"

$1,500,000, school, Toledo, Ohio, Board of Education.

$959,700, school, Washington, D. C., District of Columbia.

$500,000, plant, East St. Louis, Mo., Polar Wave Ice & Fuel Co.

$500,000, building, Philadelphia, Pa., Board of Home Missions & Church Extensions, M. E. Church.

$460,000, school, Philadelphia, Pa., City of Philadelphia.

$428,973, sanitarium, Washington, D. C., U. S. Government.

$400,000, school, Niles, Mich., Board of Education.

$400,000, theater, offices and lodge hall, Chicago, Ill., Tiffin Theater Co.

$400,000, bank and office building, Wichita, Kansas, Fourth National Bank.

$400,000, apartment house, Chicago, Ill., Fullerton Plaza Bldg. Corp.

$300,000, apartment building, Milwaukee, Wis., owner withheld.

$250,000, apartment building, Chicago, Ill., Abe Smith.

$250,000, office building, Scranton, Pa., Glen Alden Coal Co.

$250,000, store building, Richmond, Va., Thalhimer Bros.

$245,000, school, Philadelphia, Pa., Board of Education.

$235,000, school, Herkimer, N. J., City of Herkimer.

$225,000, theater, stores and offices, Michigan City, Ind., The Michigan City Theater Corporation.

$200,000, bank building, store rooms and office, Philadelphia, Pa., Sunbury Trust & Safe Deposit Co.

$200,000, bank and office building, Terre Haute, Ind., The American Trust Co.

$200,000, apartment building, Evanston, Ill., Arthur E. Anderson.

$200,000, apartment building, Chicago, Ill., H. P. Erickson.

$175,000, apartment building, Chicago, Ill., C. W. Christensen.

$150,000, mill and office, Hamilton, Ohio, Miami Woolen Mills.

$160,000, reformatory, Ionia, Mich., State of Michigan.

$140,000, school, Washington, D. C., District of Columbia.

$125,000, plant, Turtle Creek, Pa., Wilkinsburg Ice Co.

$125,000, house, Baltimore, Md., St. Charles College.

$125,000, garage and sales building, Milwaukee, Wis., The Purcell Wischan Co.

$125,000, residence, Philadelphia, Pa., C. W. Ferguson.

$125,000, factory, Chicago, Ill., Nemo Dye Works.

$123,800, sanitarium building, Walla Walla, Washington, U. S. Government.

$100,000, shops, Pratt, Kansas, Chicago, Rock Island & Pacific R. R.

$100,000, apartment building, Evansville, Ind., Glenn W. North Co.

$100,000, lake outlet drain, Monroe, Mich., Monroe County.

$100,000, sewer system, Lansing, Mich., City of Lansing.

$2,000,000, auditorium, market house and city hall, Memphis, Tenn., City of Memphis and Shelby County.

$500,000, factory, Syracuse, N. Y., A. E. Nettleton Co.

$500,000, hotel, Columbus, Ohio, The Middletown Hotel Company.

$350,000, building, Ithaca, N. Y., State of New York.

$200,000, grain elevator, Chester, Ill., H. C. Cole Milling Co.

$200,000, plant, Grand Rapids, Mich., City of Grand Rapids.

$150,000, store, studios and offices, Chicago, Ill., Willis & Frankenstein.

$150,000, armory and auditorium, Superior, Wis., City of Superior.

$125,000, factory, St. Louis, Mo., Haynes & Langenberg Mfg. Co.

$100,000, apartment building, Chicago, Ill., I. S. Saltin.

$250,000 school, Chicago, Ill.; Board of Education.

$200,000 church, Chicago, Ill.; Evangelical Lutheran Church.

$200,000 church, Champaign, Ill.; Holy Cross Catholic Church.

$200,000 store and office building, Roanoke, Va.; W. W. Boxley.

$200,000 school, Mt. Lebanon, Pa.; School District of Mt. Lebanon Twp.

$195,000 waterworks and electric improvements, Neodesha, Kans.; City of Neodesha.

$185,000 apartment building, Chicago, Ill.; Lavin & Adler.

$175,000 flat building, Chicago, Ill.; Himelblau & Schechter.

$175,000 apartment building, Chicago, Ill.; I. B. Padorr.

$157,000 water supply system, Dayton O.; Montgomery County.

$150,000 school, Goodman, Kans.; Shawnee Mission Rural High School District.

$150,000 apartment building, Chicago, Ill.; Chas. Regler.

$140,000 school, Bloomville, O.; Board of Education.

$125,000 apartment house, Washington, D. C.; M. G. Lepley.

## PERSONAL MENTION.

**Lew E. Phillips,** formerly Indianapolis manager of the Kohler Co., Kohler, Wis., has established a manufacturers' agency at 1943 Central Avenue, Indianapolis, and will cover the central states.

**John H. Frey,** 212 West Chestnut Street, Lancaster, Pa., has just been appointed sales representative for Froelich Bros., Inc., Philadelphia.

**William G. Brewton,** Drexel Building, Philadelphia, Pa., has been appointed sales representative for the Ware Coupling & Nipple Co., of Ware, Mass. He will cover New Jersey, Maryland, Delaware, Virginia and New York state, with the exception of New York City, for the company.

# TRADE LITERATURE

### Double Drainage Urinal Trap Folder.

The Josam Mfg. Co., Michigan City, Ind., has just issued a small folder describing and illustrating its double drainage urinal trap for use in shower receptors and urinals. The combined trap and drain has adjustable double eccentric bushings for porcelain, enameled iron, slate or marble receptors.

### Heating Specialty Booklet.

The Simplex Heating Specialty Company, Inc., Lynchburg, Va., has just issued a twenty-eight page booklet illustrating and describing the company's vapor heating specialties. The booklet is neatly prepared, and contains much valuable information concerning the methods of installing the equipment.

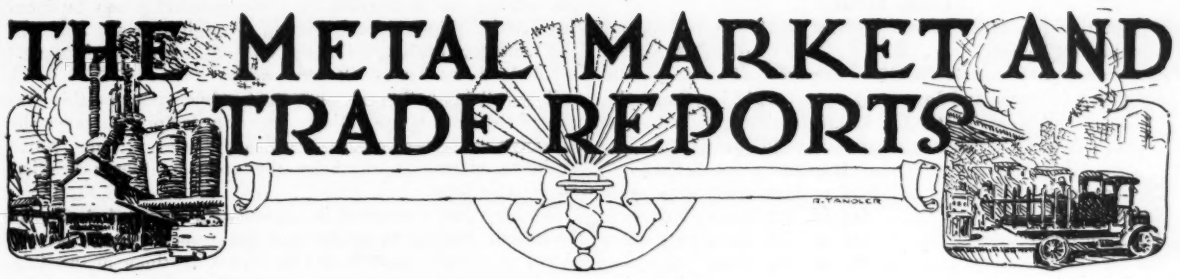
### Catalog No. 21 of Hudson Brass Works.

The Hudson Brass Works, Brooklyn, N. Y., has just issued its Catalog No. 21, which contains seventy-four pages of illustrations and descriptions, with one page devoted to an index. It is prepared in loose leaf form held in place with brads extending through from the inside, and is bound in a heavy mottled green paper cover with printing in black and embossed green.

### Folder and Broadside from Syracuse Radiator Co.

A folder and a broadside have just been issued by the Syracuse Radiator Co., Syracuse, N. Y., both illustrating the company's garage heating system—the folder in small proportion and the broadside in detail. The broadside measures 18x20 inches and is profusely illustrated with plenty of reading matter. The folder is printed in orange and black.

# THE METAL MARKET AND TRADE REPORTS



### Steel and Iron

The subsidence in iron and steel trading was especially marked in the Pittsburgh district last week, with the result that prices were severely tested and in some cases broke a point or two in the effort to keep mills going. This was especially true in the semi-finished market, where sheet bar offerings on spot lots of steel of the larger sizes and also some of the smaller sizes were sold at the remarkably low price of $27.25. Such sales as these were, however, not market criterions and could hardly be duplicated.

On the other hand, sheet bars were sold and are believed to be still available at $28 and $29 but only for immediate shipment. Forward contracts are firm at $31 to $32 Pittsburgh and Youngstown. On standard billets the market has not receded from $29, and small billets are held at from $30 to $31, and wire rods are now moving occasionally at $38 to $39. The nominal market base of $40 is not mentioned on current business.

The sheet market is a little softer and it is possible to place going business at 2.75 cents for black and 3.75 cents for galvanized material. Blue annealed sheets are available occasionally at 2 cents up to 2.10 cents, with a nominal market at 2.25 cents, but are not a governing factor at this time. Merchant bar trading was slightly better during the past week, but there was no change in the trading base of 1.50 cents and on desirable business up to 1.65 cents.

Tinplate mills are shipping heavily on current specifications and mills are operating on a practical normal basis. This represents approximately 85 per cent of capacity.

On the whole the steel market is quiet which is generally the case during December. There is considerable business in prospect and construction companies report the preparation of many estimates on important contracts, a few of which, if placed, will involve a large tonnage. New business comes in very slowly and is widely scattered, though shipments from the mills are fairly heavy on contract undertakings. The closing days of last week were quiet in the pig iron market, but the week as a whole was most satisfactory. The recent impetus to the iron movement following immediately upon a period of dullness over the balance of the year, was as unexpected as it was gratifying. It almost seemed as though the buyers had held a conference to adopt a set policy, because the demand was well scattered among the various manufacturing industries. The chief support came from the manufacturers of heating apparatus of various kinds and from the car builders and makers of railroad equipment. The ordinary jobbing foundries have not figured to any material extent in the buying, and their importance was dwarfed by the round lot tonnages of the larger consumers. But in the aggregate it was fair, considering that these concerns are estimated to be operating at not more than from 30 to 35 per cent of normal capacity.

Eastern Pennsylvania iron has sold at $20 furnace and Buffalo at $18.50 at points where the respective producers competed. For small lots the furnaces are asking $21 for eastern Pennsylvania and $20 for Buffalo at the furnace.

Foundry coke for next quarter delivery has improved with the demand for iron, but the market as a whole is still easy, with much coke pressing for immediate sale on the basis of $2.75 to $3 for furnace and $4 to $4.50 for foundry grades. Prices for pig iron are quoted as follows:

| | |
|---|---|
| No. 2 Pittsburgh | $22.46@$22.96 |
| No. 2X Philadelphia | 22.34@ 23.04 |
| No. 2 Southern, Birmingham | 17.50@ 18.00 |
| No. 2 Chicago | 20.00@ 21.00 |
| Basic valley, furnace | 19.00@ 19.50 |
| Bessemer, Pittsburgh | 21.96@ 22.46 |

### Copper

Copper is holding steady with a firm undertone. Demand during December has been exceptionally good, all things considered, and the tone of the market is decidedly cheerful, though the buying interest tapered off towards the end of the week. It may be remarked that there has been little selling pressure, nor has there been any attempt to force an advance over the prices which have been current for about a week. The producers have filled the demand, as it came into the market, upon their own terms but have taken no undue advantage. They fear to overload the market which would result in an inevitable reaction that might undo the progress so far made. The policy is to proceed cautiously as to price and not to sell too far ahead. Producers are therefore unwilling to quote beyond February. At the end of the week it was possible to obtain limited lots of prompt copper at 13¾ cents, as usually sellers can be found ready to dispose of small holdings under the market. But the asking price for December is generally firm at 13⅞ cents. January is quoted at from 13⅞ cents to 14 cents, and February is firm at the latter figure. Casting copper is quiet but firm at 12⅞ cents for prompt delivery.

### Tin

Tin has been fluctuating under the influence of London cables and higher sterling exchange, but consuming demand is only moderate at best. Saturday is always an off day in the market, and in the absence of London advices the price was nominally unchanged at 32 cents for spot and future Straits. Arrivals during December have been 1,125 tons at Atlantic and 5 tons at Pacific ports. Tin afloat is estimated at 5,280 tons. Consumers are showing no interest beyond closely watching the developments in the market, waiting apparently until the market has quieted down.

### Lead

Lead continues to move in fairly steady volume and the market remains firm at current quotations. New York delivery ranges between 4.70 cents and 4.80 cents as to grade and Missouri bands are quoted at 4.40 cents, East St. Louis. The Metal Exchange on Friday lowered its New York price 10 points to 4.70 cents for spot and December, against 4.75 cents asked. Its East St. Louis quotation was also lowered to 4.40 cents for spot and December, against an asking price of 4.425 cents.

### Zinc

Demand has quieted down and the market is somewhat easier for zinc, without any great selling pressure. East St. Louis delivery is quoted in the outside market at 4.80 cents. The Metal Exchange continued its price for New York delivery at 5.25 cents, but lowered its East St. Louis quotations 7½ points, to 4.80 cents for spot and December, against 4.895 cents asked.

**Other Metals.**

Quotations on other metals in New York are as follows:

Aluminum Powder .....60 to 65 cents per lb.
Aluminum (in 50-ton lots) 99% and purer..25 cents per lb.
Antimony (Chinese and Japanese).....4.55 cents per lb.

**New York Old Metal Market.**

The following prices are current for old metals:

| | Buying | Selling |
|---|---|---|
| Copper, heavy | 10⅞ to 11⅛ cents | 11⅞ cents |
| Copper, light | 8⅝ to 8⅞ cents | 9⅞ cents |
| Brass, heavy | 5¼ to 5½ cents | 6¼ cents |
| Tea lead | 2½ to 2¾ cents | 3¼ cents |
| Lead, heavy | 3⅞ to 4⅛ cents | 4½ cents |
| Crucible copper | 11¼ to 11½ cents | 12¼ cents |
| Zinc | 2½ to 2½ cents | 3 cents |

**Chicago Old Metal Market.**

Chicago wholesale dealers' prices are nominally as follows:

| | Buying | Selling |
|---|---|---|
| Heavy yellow brass | 5 to 5¼ cents | 6¼ cents |
| Brass, light | 4 to 4½ cents | 5½ cents |
| Red brass | 8 to 8½ cents | 9 cents |
| Copper, heavy | 9½ to 10 cents | 10½ cents |
| Copper, light | 7 to 7½ cents | 8½ cents |
| Lead, heavy | 3½ to 3¾ cents | 4 cents |
| Zinc, | 2½ to 2¾ cents | 3¾ cents |

**In the New York Supply Market.**

New York, Dec. 12.—Despite the prevailing conditions of dullness in the local supply market, which are largely seasonal, there is a feeling of optimism which is stimulated by the huge building construction program that is developing in the Greater New York district and in nearby suburban towns. The demand for new construction is unprecedented, and within the past week several prominent authorities have gone on record to the effect that there is now plenty of available capital, and that the only point that is causing concern as to the outlook is the problem of stabilizing labor costs in the building trades. In the latter respect, however, factors in the supply market are hopeful of a quick solution, owing to several recent developments. One of these developments is the present activity of the Lockwood Housing Committee in the direction of looking into the labor costs aspect of the housing shortage problem. It is believed, or at least hoped, that Chief Counsel Untermyer's research along these lines will be productive of a prompt improvement in the situation.

Another subject of much speculation in local supply circles this week is the outcome of the investigation now being made by the Federal authorities into the manufacturers' prices of plumbing supplies. A number of New York jobbers were subpœnaed this week, to appear at the office of Deputy Attorney General Kirsh, in the Post Office Building, and tell what they know, or think, about current prices of plumbing and heating supplies. The jobbers, of course, were prompt in obeying this summons, and frank in enlightening Mr. Kirsh to the best of their ability.

Whether this Federal investigation will lead to a general lowering of supply prices is a question which naturally is being eagerly discussed in jobbing circles. One representative jobber, however, expressed the opinion, after a visit to the Federal Building, that unless a thorough attempt was made to investigate the labor cost element in the production of plumbing and heating supplies, he was inclined to think that the results of the inquiry would be negligible.

So far as general conditions in the local plumbing supply market are concerned, the dullness noted last week continues and will probably do so to a greater or less degree until the turn of the year. There is an abundance of soil pipe in local stocks but very little demand. Stocks of wrought iron pipe are not so extensive and the jobbers appear to be trying to maintain stocks and demand on as close a level as is consistent with safety.

Prices in these lines remain unchanged except for the under-cutting which prevails in some quarters when business is offered. Shipments are coming through all right although the tendency on the part of the railroads to hold orders until a full load has been built up is still evident.

The call for bathroom equipment, while good for this season of the year, is not active. The only factor that saves the situation is the continuance of the suburban programs, which is being materially aided by the open weather prevailing so far this year.

Nothing has transpired in regard to a rumored decline in bathroom equipment prices and there seems to be a tendency in certain quarters not to expect anything in this line.

The demand for heating equipment is better than for plumbing supplies and bathroom equipment but the crest of the seasonal boom has been passed and a decline in activity is noted. Whatever briskness there is, is more in the direction of building up stocks, which had in some cases been allowed to fall to too low a level but this will probably be caught up by the end of the year.

"Business isn't very active," said William Murray, of the John A. Murray Company, "but it's good for this season of the year. We don't expect much activity until the inventory season is over, perhaps about the end of the present month."

"The pipe business is very dull," said Charles Hirschfield, of the McMann Supply Company. "There's any amount of pipe available but very little demand for it. This is the dull season, anyway."

"Business isn't bad so far as the suburban demand is concerned," said Elmer Doolittle, of the Central Plumbers' Supply Company; "but it's very spasmodic. One day we get quite a few orders in and then nothing at all for several days. We do most of our business with the outlying districts, and that saves us from the dullness which is being experienced by those firms which cater for Manhattan needs only. We do not note any change in prices except for a certain amount of undercutting in some quarters, but that is more evident among houses catering for industrial business where competition just now is decidedly keen."

"Inventory season," said Manager Thomas F. Larkin of the Nason Manufacturing Co., "but that is only the culminating cause of the dullness that has afflicted the plumbing supply trade for some time now. We note also that what demand there is, is mainly for lower grade supplies, cheaper lines all round. The speculative builder is keeping his building costs down to bedrock level, but his clients are liable to find in some cases that they will have to renew their plumbing fixtures too soon. The trouble is that the average home-buyer is quite inexperienced in these matters. Many of the higher class supply houses are refusing business at the prices offered.

**Enameled Ware Reduced 10 to 15 Per Cent.**

Chicago, December 14.—Two large manufacturers of enameled ware have reduced their prices on all goods from 10 per cent to 15 per cent, the average reduction being a little more than 10 per cent. Business in the plumbing industry is still rather lifeless, which is the usual condition at this time of the year, but jobbers hold out for much business in the spring of next year. There is a big reason for this optimism on the part of the jobbers. Prospects for building in Chicago early next year are very bright, due to the fact that many improvements will be made at that time by the city, and to the fact that people now paying high rents are about convinced that next year will be the proper time to build.

Heating business is holding up fairly well, most of the work now being in this line. There have been no changes in prices of heating equipment during the past week, neither have prices changed on valves or pipe. Fittings have not witnessed any reduction. What purchases are being made are for immediate consumption.

# AMONG THE PLUMBING AND HEATING CONTRACTORS

## Illinois

### Chicago.

Building construction has fallen off a little during the past week, but not enough to warrant any serious consideration. Several months ago, permits issued daily were in the neighborhood of from 30 to 35, but during the past week they have ranged from 18 up to 25. Several permits were issued for large buildings, but the majority of the permits were for residences ranging in price from $4,500 to $15,000. Permits were issued for a $275,000 theatre building, a $150,000 flat building, two $125,000 flat buildings, and a number of other flat buildings to cost from $18,000 on up to $90,000.

What may be termed a building boom is expected by many residents of the south side of the city due to the widening of business streets and the construction of an outer breakwater in the lake which will be the eastern boundary of the new boulevard link and park, now under construction. Land values in the districts affected have jumped considerably during the last few weeks, and further advances are looked for as the work progresses. Ground has been purchased for the construction of what is said to be a second Wrigley building. The purchase amounted to $150,000, with the purchaser agreeing to cut away about a third of the land to make way for a part of the new boulevard link, which will leave him about 33,000 square feet. This is only one of the bright prospects for the growth of the south side, and the start of building activities.

Contractors look forward to a lively spring, and expect by that time the labor trouble now quieting down will have been settled enough so that work can be taken with a little more security.

If reports from the Building Material Exhibit, a permanent show of building materials and equipment in Chicago, is any criterion there will be a decided spurt in the construction of homes. Close on to 50,000 people visit the exhibits every week, and men closely connected with the Exposition say it is surprising to note the number of people who have saved from $500 to $1,500 to be used as first payments on homes of their own. Any number of the people who visit the exhibits tell of their plans for the future, and a good many of these same people are prospects for home equipment of some kind. Others have visited the Exposition and purchased outright everything that goes into a house. Some have purchased the ground, others have purchased the materials for the home to be constructed on the ground they already have, and others have purchased both the ground and the material. The majority of the people who visit the show are in the working class and are desirous of getting away from exorbitant rents by owning their own home.

The Roberts Plumbing Co., 4544 North Western Avenue, and the E. J. McDonough Co., 350 North Clark Street, will install plumbing and heating, respectively, in the $400,000, five-story, 100x300 ft., apartment hotel to be erected at 420-429 Fullerton Parkway for the Fullerton Plaza Building Corporation.

Paul Jacoby, 4332 North Albany Avenue, and J. P. Rasmussen, 5246 Broadway, have the contracts for installing plumbing and heating, respectively, in the $80,000 apartment building under construction at 4940 North Robey Street. The building will be three stories, 50x133 ft., and will house 18 families. The same contractors will also install plumbing and heating systems in another $80,000 flat building to be erected at 5001-5005 North Winchester Avenue.

George S. Moore, 2406 Prairie Avenue, Evanston, has the contract to install plumbing and heating in a $30,000 one- and two-story auto sales and service building under construction at 1510-1512 Irving Park Boulevard.

The Phillips-Getschow Co., 130 West Kinzie Street, has the heating contract, and W. W. Watson, 708 North Carpenter Street, the plumbing contract on a $125,000 factory building now being erected at 4203-4219 West Grand Avenue for the Nemo Dye Works.

W. E. McCarthy, 4814 Addison Street, has been awarded the plumbing contract on the $20,000, three-story flat building with garage to be erected at 4924-4926 North Albany Avenue.

Edward C. Oakes, 1101 North Central Avenue, has secured the plumbing contract on five flat buildings to be erected on Mayfield Avenue near Division Street. Each structure will be two stories, 24x50 ft., and will house two families. The plumbing contract on four $6,000 residences has also been secured.

Nilson Bros., 3222 North Halsted Street, have the plumbing and heating contract on the $35,000 public garage and showroom to be erected at 1501-1505 North Halsted Street. The building will be one-story, 14x180 ft.

Max Raskin, 2109 West Division Street, has the contract to install plumbing in a three-story, $40,000 store and apartment building with garages to be erected on Lawrence Avenue near Ridgeway Avenue. The building will be 75x125 ft., and will contain three stores with six garages.

Walter McHugh, 214 East Forty-seventh Street, will install plumbing in the $50,000, two-story store and office building under construction at the corner of Thirty-fifth Street and Vernon Avenue.

Paul Jacoby, 4332 North Albany Avenue, and William Klender & Co., 3156 North Clark Street, have the contract to install plumbing and heating, respectively, in the one-story, six-store building to be erected at 4518 North Kedzie Avenue.

Katz & Lewis, 1207 West Fourteenth Street, and the Adelman Heating Co., 1301 South Crawford Avenue, are to install plumbing and heating, respectively, in the $30,000 store and flat building now being erected at 3115-3119 Montrose Avenue. The building will contain five stores and three flats.

The Erickson Plumbing Co., 5926 South Halsted Street, is to install the plumbing system in a $30,000 store building with an eight-car private garage to be erected at 6912-6916 South Halsted Street.

### Other Cities in the State.

Fowler Bros., Centralia, have the contract to install plumbing and heating in a $75,000 store and flat building to be erected in that city. The structure will be two stories, 150x46 ft.

# Indiana

**Indianapolis.**

The valuation of new buildings in Indianapolis, for which the city building commissioner has issued permits during the eleven months of 1921, is nearly $1,200,000 more than the valuation of permits issued during the entire year of 1920. The total valuation for the eleven months of this year is $16,465,861, while for all of 1920 the total was only $15,284,-119. The record for this year already has surpassed any previous year. The record is all the more unusual when it is considered that it was made during a time of declining prices.

The record breaking continued during the month of November, the city commissioner's records show. Six hundred and forty permits were issued during that month on a total valuation of $1,071,319, as compared with 454 permits valued at $601,436 for November, 1920. The large number of permits for dwellings has been the outstanding feature of building operations in Indianapolis during 1921. For the eleven months permits have been issued for 1,611 single and double dwellings with a valuation of $6,816,182. The total for dwellings for this period is far beyond the total, both in number and valuation, of any previous year. In November there were 107 dwelling permits for a total valuation of $353,488. The average cost of the dwellings this year is about $4,231, slightly below the average cost of previous years.

Samuel Lewis Shank, newly elected mayor of Indianapolis, members of the new city council and a number of the department heads in Mr. Shank's official family have been invited to meet with the master plumbers of Indianapolis this week at Buschmann's hall, College Avenue and Eleventh Street. The meeting, which is under the auspices of August Buschmann & Sons, Inc., will be held for the purpose of discussing some of the problems of the incoming administration from the standpoint of the plumbing contractors. Mr. Shank is expected to state what he thinks of the new payment plan, devised by the Buschmann concern, to enable property owners to comply with a new city ordinance requiring sanitary plumbing, by buying their plumbing on payments.

**Fort Wayne.**

Shattering all records in years, new construction work costing $1,151,060 was started in Fort Wayne during the month of November, according to figures compiled in the office of the city building inspector. During the month 79 building permits were issued for work involving an expenditure of $1,151,060. The amount was swelled considerably by the issuing of a permit for the building of a new high school at a cost of $950,000.

The cost of new building work in Fort Wayne in November was estimated as nine times as great as during the same month in 1920 and nearly three times as great as during the preceding month this year. Building costs in October totaled $410,765, and in November, 1920, $115,800. Thirty-three new residences were put under construction during the month just ended. Twenty-five of the permits were for the erection of private garages and a number of others were for the remodeling of residences and the building of additions to homes.

The year's building record in Fort Wayne is without an equal in the history of the city. Including the figures for November, the total cost of new construction work this year is $4,492,686, which is nearly twice as much as either of the two preceding years. The indications are that the total building costs for the year will amount to nearly $5,000,000. The total for 1920 and 1919 was around $2,000,000.

W. C. Horstmeyer, of Fort Wayne, has been awarded the contract for the installation of the plumbing and heating systems in the new addition to Emmaus Hall, on South Broadway, Fort Wayne. Shower baths will be installed and the plumbing and heating in the old building remodeled.

Derheimer Brothers, 523 East Jefferson Street, have been awarded the contracts to install heating in the St. Andrew's parish house in Fort Wayne, the ventilating in the North Creston junior high school being erected in Grand Rapids, Mich., and the heating and ventilating systems in the North and South junior high school buildings being erected in Saginaw, Mich. The contracts for the two schools amount to $100,000.

**Gary.**

Despite the fact that a practical building lockout has existed in Gary since early last spring, and that many building propositions were abandoned or postponed until next year, building operations during the first eleven months of 1921 are over $800,000 in excess of those of the first eleven months of last year. These figures are shown in the monthly report of the city building commissioner.

Up to December 1, last year, there was expended in the actual construction of buildings in Gary the sum of $1,776,-200. In the first eleven months of this year there has been expended the sum of $2,625,250—which exceeds the figures of last year by $849,050. This does not include any structures costing less than $1,000 or buildings on which actual construction work has not been started.

Building operations in Hammond during the month of November took quite a spurt as compared with activities in the building line a year ago. Most of the activity was in home building. Lower material rates coupled with property bargains and an auspicious year combine to boost construction on bungalows, cottages and small dwellings by home owners, the realty men say. The building commissioner's report shows that 17 permits were issued on a valuation of $75,000 in November, 1920, and that 59 permits on a valuation of $192,000 were issued in November this year.

# Kentucky

**Louisville.**

Business with the Louisville master plumbers and the master heating interests is reported as good, there being a lot of local plumbing work, while there is a very fair volume of heating business from out of the state and a good deal of figuring. There is not much big work under way just now, but a good deal is said to be in sight for the spring.

The Louisville Master Plumbers' Association is meeting regularly again, now that election is over, and in view of the fact that cool weather and a slight let up in rush work is making it possible for the master plumber to have a breathing spell. The officers serving the association this year have all been re-elected and will be installed at a meeting on December 19. They are: Ben B. Watts, president; Otto Dusch, vice-president; W. H. Matlack, secretary; and Philip Miller, treasurer. Tom Garvey is sergeant-at-arms. A jollification meeting and refreshments will feature this meeting. The association has also elected C. H. Eubanks, city plumbing inspector, an honorary member of the organization, and elected the new firm of Gernert Bros. to membership. Andrew Voght, who has succeeded John B. Stickler in the plumbing business, was also elected to membership. Mr. Stickler, one of the oldest plumbers in the state, has retired from business, but has been an honorary member of the local association for some years.

Mayor Quin, recently elected, has appointed C. H. Eubanks as plumbing inspector of Louisville, to fill the position recently resigned by F. H. Scott. Mr. Eubanks has been assistant inspector for several years.

The City of Louisville has disposed of $1,000,000 worth of sewer bonds, and plans to start work on improvement of the local sewer system within three months.

George Schardein, recently elected a member of the Louisville Board of Park Commissioners, is already sitting in like an old timer. He appears to know considerably more about management of public parks than the average layman, and will no doubt be of considerable value to the city.

Al Clegg, of F. A. Clegg & Co., reports that the company is figuring on a number of jobs and has numerous good prospects for 1922, both locally and in the state. The company is finishing up a number of jobs now, and has just started work on others, including the Old Odd Fellows Building, Corbin, Ky., and New Odd Fellows Building at that point; the J. H. Brewer residence, at Lebanon, Ky.; Casella apartments, Louisville; Louisville & Nashville R. R. freight and passenger depot, Hazard; First National Bank, Maryville, Tenn., and several other buildings.

**Pittsburgh.**

The apprenticeship problem has been brought home to the Pittsburgh master plumbers in a very forceful manner in the last few months. It is surprising to note that there are so few real mechanics and experienced men among the journeymen, especially throughout the small towns surrounding Pittsburgh, such as Washington, Waynesburgh and Beaver. The field agents of the Association in an endeavor to obtain sufficient help have found that men are few and far between in the outlying districts. The Association now has a new apprenticeship system being handled by the Apprenticeship Committee and Secretary J. H. Keane. New blood for the trade is being brought in through a series of advertisements for boys to learn the trade. Only boys of exceptionally strong build and fair education are being employed.

The Pittsburgh strike is still on so far as the plumbers are concerned. The meetings with the journeymen brought about by the Department of Labor have been unsuccessful. Never in the history of the Association have the plumbers been so united as at the present. With the strike on for over six months but few, if any, of the leading members have given in and put the men to work. Many of the masters in times of dire need have been able to help the men who are being pushed for sufficient men to complete work. A number of large contracts have been let to members who are working on the American Plan and to date have been hampered but little by the union.

The electricians and steam-fitters are likewise running their business on the American Plan, the steam-fitters being the most successful with regard to obtaining sufficient men. Some few journeymen have pulled away from the union and have gone back to work.

The prospects for spring work are much brighter. New work now being figured will run into enormous sums. Bids are being taken for many large projects, among them the Langley high school, three buildings for the Shadyside Academy, alterations and additions to the telephone building in Wilkinsburgh, and a store building for Joseph Woodwell.

W. N. Gangloff, 2471 Perrysville Avenue, has been confined to the Allegheny General hospital for the past week as a result of an attack of appendicitis which necessitated an operation last Saturday.

S. S. White, 1827 Perrysville Avenue, has been awarded the contract to install plumbing in the new residence of Mr. Chess in the East End.

**New Haven.**

George E. Purdue, 107 Court Street, has secured the contract to install heating in the Center church home being erected on Trumbull Street.

The New England Hardware & Paint Co., 28 East Grand Avenue, will install plumbing and heating systems in a large house being erected in Westville.

Frank Wiltz, 669 Congress Avenue, is installing plumbing and heating in the Atlas Bottling Works' plant at 62 Orchard Street. This structure will cost approximately $25,000.

J. A. Carrano, 130 Bradley Street, has the contract to install heating in Peter Valliani's building at 204 Foster Street.

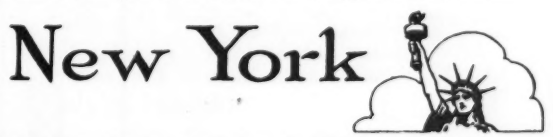
James C. Brown, 247 James Street, has been awarded the plumbing and heating contracts on a recreation hall and parish house to be erected in Westville; the First Baptist church in West Haven, and the residence of E. P. Brennan in New Haven.

**Stamford.**

Feeks & Rutz, 36 Atlantic Street, are busily engaged in making a test of a large heating job, recently installed by them, to determine the variations in the temperature of the water in the radiators. The test will last for two weeks, with temperatures taken every hour between 7 o'clock in the morning and 7 o'clock in the evening.

Richards & Jessup Co., 27 Summer Street, has the plumbing and heating contracts on the Southern New England telephone building in Stamford, the $20,000 residence of Mrs. Auchincloss in Fairfield, and in the residence of Miss R. Hoyt in Stamford.

J. F. McNamara, Canal and Atlantic Streets, has just completed the plumbing and heating in the Sove public school, the Spelke Construction Co.'s building, and has secured the contract to install plumbing and heating systems in six residences to be erected in Shippan Point, Conn.




**Manhattan Master Plumbers to Elect New Officers This Month.**

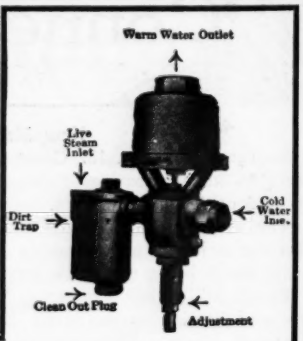
"We're getting ready for the elections of officers," said David Deigan, of Canavan & Deigan, president of the Master Plumbers' Association of Manhattan. "This week we've appointed the chairmen of the two nomination committees, Thomas Cummings and Jeremiah Murphy. The elections will be held at the last meeting in December so that the new officers can take up office as from January 1st. We are looking forward to much greater interest by the members in the work and purposes of our association. In the past there has been too much of a tendency to take it all for granted —until something went wrong—but there are indications of a much keener interest recently. Everyone who has the interests of the association at heart welcomes this quickening among the members because after all the association is no more and no less than they make it. If they don't attend the meetings and take an active part in what's going on, there can be only one result; and if they do take an interest, we'll benefit all round."

**Report Progress in Arrangements for New York City Master Plumbers' Annual Ball.**

The arrangements for the ball and entertainment to be held by the Master Plumbers' Association of the five boroughs of

# It Heats Water Instantly

**The Powers Steam and Water Mixer—An Instantaneous Water Heater**

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It is simple, safe, and easily installed. Requires only one line of water piping. Makes an instant hit where economy is an item, or where hot water is wanted only occasionally. No storage tank required.

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# Quality-Service-Satisfaction

Three elements that go to make up the TRENTON Line of Plumbers' Brass Goods.

The master plumber who has used Trenton Products knows that they are dependable in every respect.

## The Trenton Tank Valve

is not a new or untried fitting. Its reputation has been established by years of satisfactory service.

For safe, sure, high quality products, specify and use Trenton Brass Goods.

***Order From Your Jobber***

**The Trenton Brass & Machine Co.**
**Trenton, New Jersey**


Greater New York have been moved another step forward this week. The date for the event has now been fixed at February 20th, and the Pennsylvania Hotel has been decided upon as the location. Nothing beyond these two points was considered at the meeting of the Committee held this week but further details will doubtless be available very shortly.

One of the purposes behind this ball and entertainment on a really big scale is a determination on the part of many who have the interests of the plumbing fraternity at heart to raise the general status of plumbers. This new spirit was excellently illustrated among the working plumbers themselves by the recent contribution from the United Association of Plumbers and Steam Fitters, Local Union 180, to the Vassar College Endowment Fund.

The contribution amounted to $25, was unsolicited, and was accepted with the greatest gratification by the College authorities. This voluntary gift on the part of a trade whose members have been unjustly described as the "highwaymen of the business world" was accompanied by a letter to the following effect:

> "We believe in a fair rate of wages for all, and because Vassar professors are receiving less than professors and teachers in other colleges we consider that this fund is a worthy object and we are glad to make a contribution to it."

"There is a dearth of plumbers' apprentices," said William Murray of the John A. Murray Company. "There are several causes for this but one undoubtedly is that the plumber's job is not regarded as a clean one, and the average modern youth is exhibiting a preference for what is called a white collar job. Presently he will realize that if he will take off his coat for a few years he'll be much better off than if he entered the overcrowded clerical market, and in the meantime any movement that enhances the self-respect of the plumbing fraternity and builds up their social status is worth boosting."

"We're going to put this plumbing business on a better basis," said Charles Kirshoff, president of the Bronx Association of Master Plumbers. "When our young men ask their friends to the high-class entertainment and ball the Master Plumbers' Associations of Greater New York are planning to hold at the Pennsylvania Hotel, every one concerned will get a much greater respect for the plumbing fraternity and that will be all to the good. We've other plans in view, and one way and another we're going to put the plumbers of Greater New York right on the map. They're on the business map; now we're going to put them more prominently on the social map."

### Large Plumbing and Heating Contracts Soon to be Awarded in New York City.

"We have two contracts in hand that will be of interest to local plumbers and heating contractors," said J. O. Fibel, of the G. R. Davis Co., building contractors: "One is the new Fifth Avenue Hospital and the other is a furniture store on a large scale we are going to build for Ludwig Bauman. Nothing has been done yet in regard to the plumbing and heating and may not be for a couple of months yet. The plumbing for the hospital will have certain special features which make it of interest. There are usually toilet rooms on each floor but in this case these conveniences will be provided for each bed room or ward. This will be a distinct step forward in sanitation as it will to a great extent abolish the old-style bed-pan and similar contrivances which are regarded with disfavor by many doctors and sanitary experts. If the practice in this case is followed elsewhere it will mean that a hospital contract will be much more valuable from the plumber's point of view."

---

Kellner Bros., 420 Crown Street, Brooklyn, are receiving bids for the construction of a $600,000, five-story apartment building at the corner of Eastern Parkway and Washington Avenue in that city. C. B. Meyers is the architect.

# Virginia

**Richmond.**

James E. Phillips & Son, 16 North Seventh Street, Richmond, the oldest established firm in that city, have recently completed a $20,000 plumbing and heating contract on the buildings of the Liggett & Myers Tobacco Company, and will install plumbing and heating in the Sacred Heart school for girls, and in the Old Dominion Beverage Co.'s plant. J. E. Phillips, Sr., established the business in Richmond in 1865, and during his time has installed plumbing and heating systems in some of the largest buildings in the state.

Kritzer & Harmon, 701 North Twenty-fifth Street, Richmond, are installing plumbing in the Forest Hill school, the skating rink being erected on West Broad Street, and the Auto Car Service garage being erected on West Broad Street.

John H. Rose & Co., Inc., 16 North Thirteenth Street, Richmond, have the contract to install plumbing in the Thalhimer Brothers department store being erected at Broad and Sixth Streets, the Battery Court Christian church, and plumbing and heating systems in several residences being erected in the city.

**Other Cities in the State.**

Maurice Solomon, who recently succeeded George A. Rives & Co. in business at 2509 Huntington Avenue, Newport News, is installing plumbing and heating in the city jail building, and in the Hebrew temple in that city.

W. L. Ollice has recently opened a plumbing and heating business at 1614 Atlantic Avenue, Portsmouth, and Culpepper & Warren have opened a shop at 417 Fayette Street. The latter firm is installing the plumbing in the new residence of Mr. Harmon on Fifth Street.

Charles Gray & Son have recently started in the plumbing business at 228 Holladay Street, Suffolk.

R. E. Gardener has recently opened a plumbing and heating business at 348 North Main Street, Suffolk. He is installing plumbing and heating systems in the Suffolk jail building.

H. B. Mearig will move his plumbing and heating business from 224 Dickson Building, Norfolk, to his new building at 214 Broadway Park Place about January 1st. Mr. Mearig is at present installing plumbing and heating in the new residence of W. Mayo at New York and Gosnold Avenues.

# Texas

**San Antonio.**

Building permits issued in ten of the largest cities of Texas during the week ending December 3rd were valued at $949,434, while the previous week permits issued in the same ten cities were valued at $893,995, or $55,439 less. Austin issued permits to the value of $5,052; Beaumont, $22,505; Dallas, $283,945; El Paso, $26,620; Fort Worth, $80,125; Galveston, $54,532; Houston, $371,900; San Antonio, $92,280; Texarkana, $4,000; and Waco, $8,475.

A. H. Shafer has been awarded the contract on his total bid of $3,446, to install plumbing and heating systems in fire station No. 2, to be erected in San Antonio. Other bidders were: Kirkwood & Wharton, plumbing, $1,274, heating, $2,649; Chalkley Brothers, total, $3,700; West & Gutzeit, total, $3,699; Reiwald Co., plumbing, $1,324; Bradon & Hudson, plumbing, $1,037, heating, $2,839; Open Shop Plumbing Co., plumbing, $1,144, heating, $2,385; Jud & Ormand, total, $3,886.

Kirkwood & Wharton have been awarded the contract to

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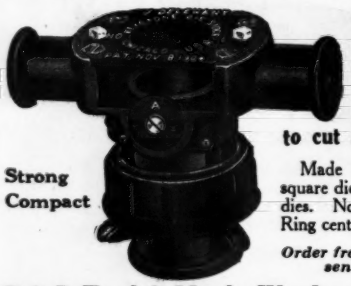

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## Minnesota

**Minneapolis.**

Ludwig Alf, 3105 Eleventh Avenue, South, and A. B. Donaldson, 1315 East Lake Street, have secured the plumbing and heating contracts, respectively, on the apartment building to be erected at 2312 Lyndale Avenue, South, for the Greysolon Holding Co.

The Belden, Porter, Gray Company, 924 LaSalle Avenue, has the contract to install plumbing and heating systems in the hotel and sanitarium to be erected at 56 Willow Place for the Minneapolis Sanitarium Co.

Connor Bros., 711 Sixth Avenue, North, are to install the plumbing and heating systems in the printing building to be erected at Sixth Avenue, North, and Seventh Street, for the Kaufman Printing Co.

The Hughes Heating & Plumbing Co., 1514 East Franklin Avenue, is installing plumbing and heating systems in the stores and apartments being erected by Frank Stodola at 406-408 Fourteenth Avenue, Southeast, also the plumbing in the Sturr Bullard Motor Co.'s garage at La Salle Avenue and Thirteenth Street, and the heating in the Modern Milk Co.'s garage at Twenty-ninth and Emerson Streets.

**Hutchinson.**

The Hutchinson Hardware Company, Hutchinson, and Ritter & Hartvig, Hutchinson, are to install plumbing and heating, respectively, in the hospital building being erected in that city.

## California

**San Francisco.**

The Master Plumbers' Association of San Francisco has enrolled two new members recently. They are the firm of Stubo & Griffin and William J. Foster. Mr. Stubo formerly was connected with the Turner Co., while Mr. Griffin was with the Holbrook, Merrill & Stetson Co. Mr. Foster was connected with the Frederick Snook Co., all of this city.

C. W. Higgins has been awarded the plumbing contract on the nineteen-story apartment house to be erected on the corner of Powell and Bush Streets. His contract amounts to $6,300.

The plumbing contract for the addition to the Physicians Building, on Sutter and Powell Streets, has been awarded to the William F. Wilson Co. at an estimated cost of $2,500.

William Carmicheal has been awarded one of the largest residence plumbing contracts let so far this month, the residence of Mrs. C. B. Hopkins, in the St. Francis Wood section.

C. Petersen Co. has been awarded the $18,000 plumbing contract for a seven-story apartment house to be erected at Washington and Goff Streets.

Wade & Miller have been awarded the plumbing contract for a six-story apartment house to be erected at 17th and Dolores Streets.

David Gibbs has secured the contract for the plumbing in the new four-story apartment house that is being erected at 18th and California Streets.

A. Scott Plumbing Co. has the contract for all the plumbing in the new Mission High School, at an estimated cost of $19,889. It is to be three stories in height and will contain thirty class-rooms. There will be one of the largest school gymnasiums in the city and it will have several fine

lavatories. Besides the thirty class-rooms there will be several smaller rooms, to be used mainly as retiring rooms. The class-rooms are to be divided, principally, into shop biology, mechanical drawing, general science, lecture, bookkeeping, freehand drawing, and metal work-rooms, and chemical and physics laboratories. Work is now in progress.

The Scott Company has recently received the following plumbing contracts: The new Curran Theatre, in the downtown district, next to Columbia Theatre, at an estimated cost $12,136. The Excelsior Theatre on Mission Street, near Brazil, a $3,500 job. Five two-story flats on the east side of Twenty-first Avenue, near California and Lake Streets, by Benjamin Liebman, which involves a plumbing investment of about $4,700. Four apartments for Thomas Hamill on the west side of Seventh Avenue, between Balboa and Cabrillo Streets, at $1,400. Four cottages for Oscar Heyman and Bros. on Irving Street, near Twenty-third Avenue, at a cost of $1,900. Two two-story flats for W. H. Voorhees on the east side of Eighteenth Avenue near Clement Street, the cost $1,600, and two more two-story flats on Fourteenth Avenue, between Anza and Balboa at a cost of $1,600.

The Scott Company has also secured the following heating contracts: The Keenan Apartments on Commonwealth and California Streets at a cost of $2,000. Five two-story flats on East Twenty-fifth Avenue, north of California Street, at a cost of $2,300. A seven-story apartment house on Washington and Goff Streets, at a cost of $6,900. The Pacific Telephone Co.'s building at 140 New Montgomery Street, at a cost of $3,300. The Spring Valley Grammar School at Washington, Hyde and Laughlin Streets, at a cost of about $1,500. The Curran Theatre on Geary, near Mason Street, at a cost of $12,300.

**Los Angeles.**

Building activity in Los Angeles for November has decreased about a million dollars from that of October, which month was a record breaker. The number of building permits issued was 4,242 with a total valuation of $8,685,775, which is still a good showing.

The construction of an $800,000 stadium for Los Angeles is now assured, as work on the huge structure was begun on November 28th, at Exposition Park. Under contract, the building must be completed in fourteen months. The Community Development Company has had these plans in charge, but eventually the city and county will assume all responsibility. The coliseum is to have a seating capacity of 75,000, is to be modern, and will contain all conveniences for those participating in big events, including dressing rooms, lockers, and baths. The architects are John and Donald B. Parkinson and the construction contractors, the Edwards, Wildy & Dixon Company.

Chas. D. Wagner has the contract for a two-story, twenty-four room house to be erected on Hobart Boulevard, south of Sixth Street, for Helen Matthewson. The structure will include eight tile baths, water heaters and gas radiators.

The Southland Construction Co. has prepared plans and has the contract at $35,000 to construct two sixteen-room four-family flat buildings, a two-story seven-room residence and four double garages on Santa Barbara Avenue for Jacob M. Young.

A three-story store and lodge room building is to be erected on the west side of Olive Street, north of Tenth Street, for the Independent Order of Foresters. The building is to contain two stores, men's and women's lodge rooms, offices, kitchen, banquet room, gymnasium, ladies' parlors, club rooms, billiard room, picture projection room, toilets and lavatories. The structure will cost $125,000.

John Eckert, 3926 South Grand Avenue, will erect a thirty-five room, fourteen apartment building on Manhattan Place, near First Street. The building is to be two stories, 44x112 ft., and will cost $45,000.

A two-story store and apartment building to cost $45,000 is to be built on Hollywood Boulevard.


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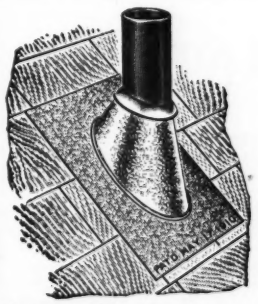

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NEW BRIGHTON, PA.

J. F. Wilson has been awarded the contract for a new $30,000 church at Avenue Fifty-eight and Monte Vista Street, for the Highland Park Christian church.

Architects Whiteley & Brin, 620 South Western Avenue, have prepared plans for a two-story store and apartment building on Catalina Island for S. A. W. Carver, to cost, about $50,000.

Architect Harold Cross is preparing plans for a residence court of six duplex units, garages and laundry building on West Adams and Raymond Avenues. Each apartment will contain five rooms.

Architect Frank M. Tyler, 406 Hibernian Building, is preparing plans for a five-unit, double bungalow court for the corner of Tenth and Irola Streets. Each unit will contain ten rooms.

Plans are being prepared for two large commercial warehouses to be erected near Pasadena Avenue. These buildings are to be four stories each, 100x820 ft., and 100x940 ft., and will cost $1,500,000.

Plans are now completed for a court of ten flat buildings at Rossmore Street and Rosewood Avenue. Each unit will contain four flats of five to seven rooms each, with tiled baths, gas radiators and water heaters.

Working drawings are now being prepared for $225,000 school buildings to be erected between Azusa and Glendora for the Citrus Union High school district. Five buildings will be erected.

Frank B. Rasche, 5751 Hollywood Boulevard, has completed plans and will start work at once on a two-story brick store and loft building at 1060 N. W. Avenue for Russell Tinkham. The building will be divided into two stores with loft above. The same architect has the contract for a one-story eight-room store building to be erected at Hollywood Boulevard and Wilton Place.

Arthur G. Lindley, Wright & Callender Building, has prepared plans for a two-story Sunday school building for the Methodist Episcopal church in South Pasadena. Architect Lindley is also preparing plans for a four-story church and Sunday school building for the Methodist Episcopal church at Whittier.

C. A. Griffin, secretary of the A. C. Blumenthall Co., announces the company is planning the construction of seven large buildings on prominent corners at an approximate cost of $11,000,000.

Plans are being prepared by Architect S. F. Powers, 308 Tajo Building, for a two-story brick store and office building, 120x45 ft., at Seventh and Rampart Streets, for P. W. Croake. The building will contain eight stores and two offices.

The K. R. Bradley Construction Co. has been awarded the general contract, at $73,392, for the new Cornwell Street school building. The plumbing was awarded to H. E. Murray at $8,248 and the heating to The Marshall Lock Co., at $3,106. The Bradley Company has also secured the contract on the Alpine Street school building. Arthur Hess was awarded the plumbing at $3,056 and the heating at $5,473.

D. S. Reynolds, engineer, 528 Title Insurance Building, has been commissioned by the Board of Education to prepare heating plans for three schools.

Alex. Grant, 1202 West Thirty-sixth Place, has been awarded the general contract at $69,773 for erecting the new Tenth Street school building. The building is to be two stories with basement, 152x91 ft. G. C. Sutton was awarded the plumbing contract at $6,540, and J. Hokom the heating at $6,274.

### Long Beach.

Sketches have been made for a $500,000 twelve-story hotel building to be erected on Ocean Boulevard, near American Avenue, for George W. and C. E. McEntyre. The building will contain two hundred rooms, each with private bath.

Architect John C. Austin, of Los Angeles, and W. Horace

Austin, Long Beach, are working on plans for a six-story $300,000 office and theater building to be erected on Ocean Boulevard for the Long Beach Bathhouse and Amusement Company.

W. L. Porterfield will erect a two-story store, theater and office building on the Pike, near Pine Avenue, Long Beach. The theater will seat 1,400 and will cost $100,000.

**Other Cities in the State.**

Allison and Allison, 1405 Hibernian Building, Los Angeles, are preparing plans for a manual training building for the Colton High school. The building is to be one-story, 45x270 ft. Bonds for the sum of $200,000 have been voted for erecting a new high school.

The same architects are completing plans for a new high school building to be erected in Orange at a cost of $130,000. The structure will contain an auditorium to seat 1,300, a study hall, offices and six class-rooms.

Edward C. English was the lowest bidder, at $99,900, on the general contract for the new county jail to be erected in Santa Ana, Orange county. Contracts for heating and ventilating were awarded to S. Hill & Son, at their bid of $10,972, and the plumbing went to the Thomas Haverty Co., at $25,195.

Plans are being prepared for a two-story store building on Brand Boulevard, Glendale, for Henry C. Jensen. The building is to be 50x150 ft.

The Ray L. Kent Co. has been awarded the contract at $62,965, for a three-story department store building at Brand and Harvard Streets, Glendale. Alfred F. Priest, Los Angeles, is the architect.

Plans are being prepared for a one-story building, 145x224 ft., at Los Angeles and M Streets, Fresno. The building will cost $100,000.

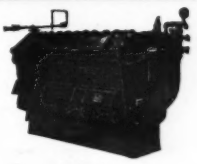
## PROVINCE OF QUEBEC.

**Montreal.**

The first of what is hoped to be a permanent series of get-together meetings was held by the Master Plumbers' Association of Montreal in the new quarters of the Montreal Builders' Exchange last week, and was pronounced an unqualified success by all present. K. D. Church and Douglas Bremner presided and James Ballantyne, as well known for his good fellowship as for his excellent plumbing, and a past president of the Exchange as well, took a good share in the program with his brief speech and witty anecdotes. T. Latourelle was also among the prominent figures present.

At the last regular meeting of the Master Plumbers' Association of Montreal, held at the Builders' Exchange, President Bethune reported that his committee had interviewed, as instructed, certain of the officials at the City Hall in reference to the business tax. It was clear, the president reported, that no change in the present by-law could be effected at the time of their interview, and he suggested, therefore, that the new Council be approached on the subject as soon as it had its preliminary organization work completed.

The object of these negotiations is to bring more prominently before the Council the amount of revenue lost to the city, and injustice done to legitimate master plumbers, by the fact that although any person conducting a business in the City of Montreal is required to pay business tax to the city, many journeymen plumbers keep a stock of materials in their cellars, and alternate between working for a master and working on their own account but never pay any tax.

ECONOMY  EFFICIENCY

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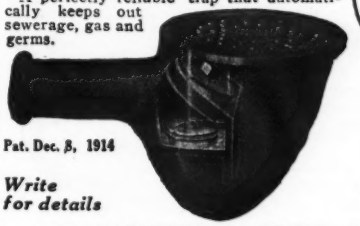
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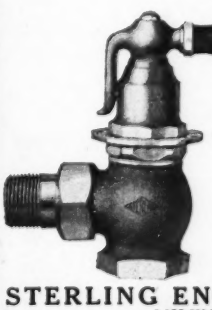
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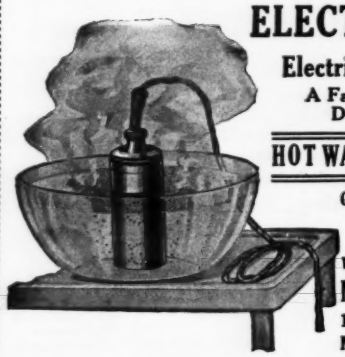

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Robinson, Illinois


As a special permit has to be issued by the city for every plumbing job to be done on any building, it is suggested by the association that such permits be issued only to master plumbers who have duly paid their tax. The committee referred to above took the matter up with the old city administration, and were practically told: "We are quitting, so we should worry."

Recent plumbing contracts of importance let are as follows: Apartment house, $75,000, St. Urbain Street; apartment house, 4 suites and 8 garages, $53,000, Bloomfield Avenue, plumbing and heating, P. E. Bigonesse, 2238 St. Lawrence Boulevard; apartment house, $50,000, Querbes Avenue, plumbing and heating, J. E. Blanchard & Sons, 2133 St. Lawrence Boulevard; residence and garage, Roslyn Avenue, plumbing and heating, A. Cooper; school, St. Laurent Village, plumbing and heating, J. E. Hardy, Montreal; addition to stores, 414 St. Lawrence Boulevard, $18,000, plumbing and heating, Paquette & Fortin; store and seven flats, Galt Avenue, Cote, St. Paul, Northern Plumbing and Heating Co.; two residences, $17,000, Belgrave Avenue, N. D. G., C. Lusignan, 240 N. D. G. Avenue; warehouse, 32-34 Bonaventure Street, plumbing, John Tweedle & Co.; garage, Park Avenue, Paquette & Fortin.

## WHEN THE JOKE BEGINS TO TURN.

(Continued from Page 525.)

And in thinking of the joke that boosts, here is a suggestion which may not be out of place. There must be hundreds of good jokes and stories constantly growing out of the plumbing and heating industry—little experiences with the points turned in the direction of the public, or else turned in such a way as to show the plumber in a good light. Well, why not write out these jokes and experiences and send them to "Domestic Engineering"—I say why not? If you will contribute, I promise to use the contributions in "Pipe Lines." From "Pipe Lines" the jokes and stories will filter through to the newspapers and magazines, and through the newspapers and magazines to a smiling public that will smile in the right way. What do you say? Will you send your choice experiences?

The filtering process is working all the time for a Bath a Day. It can be made to work just as well for the kind of jokes that will help plumbing and heating along the road to greater success.

There is a certain amount of good humor in every business. Put it to work and it will increase profits.

The smiles in the cartoons here reproduced ought to suggest other smiles. When the world smiles with the plumber and not at him, then—but not until then—will his measure of prosperity be heaping full and running over.

### Late News from Los Angeles, Calif.

Uhler & Andrews, 338 Bradbury Building, have prepared plans for a two-story, twelve-room, colonial style residence and double garage in LaFayette Square. Plans call for three tile baths, unit heating system and an automatic water heater.

Architect Arthur G. Lindley has prepared plans for a two-story, $80,000 church in San Pedro for the First Methodist Episcopal church. The basement will contain social hall, class rooms, gymnasium, lockers, kitchen, toilets—the first floor an auditorium to seat 1,200, and class rooms. The second story will contain men's club, gallery, class rooms, pastor's study and motion picture booth.

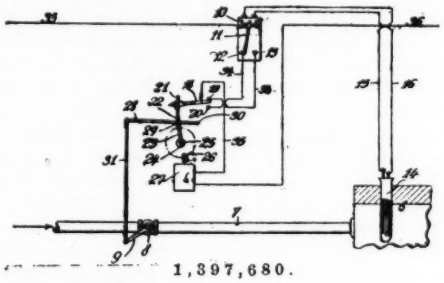
Architect W. J. Saunders is preparing plans for a store and loft building, 84x130 ft., to be erected on Los Angeles Street, between Fifth and Sixth Streets. The building will be three stories high.

A brick building to contain seven stores is to be built at Santa Barbara and Vermont Avenues.

# Patents

**Heating Department.**

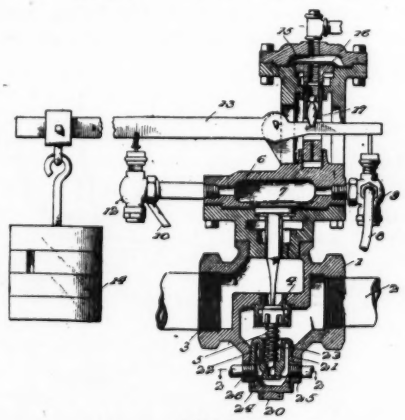
1,397,680. Automatic Valve-Regulator. Lorentz E. Egar and Niels C. L. Wilhjelm, Brooklyn, N. Y., assignors to Automatic Temperature Control Co., a Corporation of New York. In combination, a furnace, a valve for controlling the fuel supply thereto, an electric circuit including a device responsive to temperature changes in said furnace, an element for operating the said valve, means for adjusting the extent of operation of said element and additional means for adjusting the throw of said valve, a motor for actuating said element, connections in said circuit between the said device and the motor for starting the latter when the temperature in the furnace varies from a predetermined constant, a switch



1,397,680.

for controlling the direction of current in said connections and means actuated by said motor for operating said switch to automatically break the said connections between the said device and the motor after the latter has operated the valve.

1,398,151. Valve. William S. Ralston, Pittsburgh, Pa., assignor to The Chaplin-Fulton Manufacturing Company, Pittsburgh, Pa., a Corporation of Pennsylvania. In combination with a valve and its casing, a plug for said casing

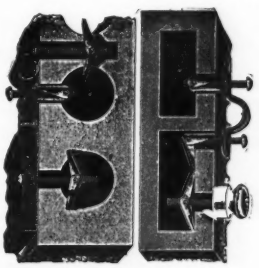


1,398,151.

having an inclosed chamber for a heat radiating fluid in juxtaposition to said valve and separated therefrom by the walls of said chamber, said plug having inlet and outlet ports communicating with said chamber.

1,397,884. Wrench. Nelson K. Smith, Dallas, Texas. In a wrench, a shank having a fixed jaw at one end, a sliding jaw adjustable longitudinally of the shank, said sliding jaw being fulcrumed intermediate its forward and rear ends on one edge of the shank, and means engaging the sliding jaw


**PAINE TOGGLE BOLTS**
**"The Practical Toggle"**



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CHICAGO

Work instantly in any position in any hollow material.

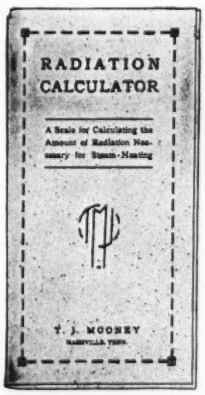
**Gerstein**
**Cistern and Riveted Pressure Boilers**
can be described in one word—

**Everlasting**

They not only *last* but give continuous, satisfactory service.
Made in any size, pressure or capacity desired.

Write for details

**Gerstein Bros. & Cooper**
**Coppersmiths**
**1-3 W. Third Street** **So. Boston, Mass.**

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With a MOONEY RADIATION CALCULATOR, you can figure the exact amount of radiation necessary for any size room or building, whether steam, hot water, or vapor heat is being used, and do it quicker than by any thumb rule. All on one chart—easily understood. Gives exact amount required. Has been in use for ten years and not one job figured by it has had to be changed.
Send us your name and address, and we will mail you one. Try it, then if you want to keep it, send us $1.25 after five days. We know you will want to keep it.

**T. J. MOONEY**
**NASHVILLE, TENN.**

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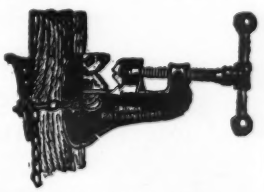
**Holds Tight and Firm Anywhere**

Can be attached to any wood or iron, round or square post, pole or tree.

Jaws of best tool steel, hardened and drawn. Will not crush or allow pipe to slip. Made in two sizes.

Write for particulars and catalog.



*Ask your jobber for "Crown" Post Vises, Pipe Dies, Pipe Cutters, Etc.*

**CROWN DIE & TOOL CO., 555 W. Monroe St., Chicago**

**RIVERSIDE Refrigerator Drains**

Made of heavy cast iron and galvanized by the Hot Drip process. Positively rust-proof.

Has removable strainer which serves as cap for trap and seals against sewer gas.

Tapped for 1¼-in. or 1½-in. iron pipe.

*Write for Catalog 9 featuring entire line.*

RIVERSIDE FOUNDRY & GALVANIZING CO.
500 Harrison Street
KALAMAZOO, MICHIGAN

RT
30-31
7¾-in. diam.

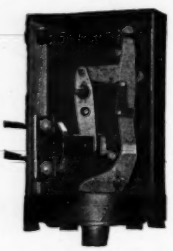
**TYPE "R" PENN PRESSURE SWITCH**

**Makes Any Good Electric House Pump Better**

The manufacturer of water supply systems should be sure that the switches he uses will stand up and do justice to his product.

The Type "R" Penn Switch meets every requirement of service and durability. Has special fabric diaphragm, monel metal pins, bakelite insulation, hardened steel wearing parts, brass guide and oil tempered springs.

Minimize your pump troubles. See that the pumps you install are equipped with Penn Switches.



*Manufactured by*

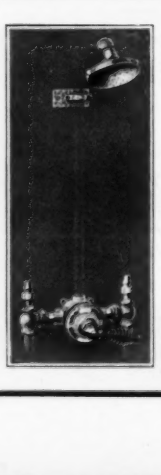
**Penn Electric Machine Co.**
114 Eighth St. Des Moines, Ia.

**Retlaw Telescopic Roof Flange**

A ONE-PIECE LEAD FLANGE, 4 LBS. TO SQ. FT.

Drawn into circular corrugations.
Extremely pliable—no seam.
Allows for settling of roof or pipe.
Adjustable to any angle.
Allows for contraction and expansion.
Collapse one side—draw out other.
Draw up band, compressing lead around pipe.
On like a flash—costs less than hand made.
Ask your jobber about them or write us for particulars.

**The Harker Mfg. Co.** 123 W. Third St. Cincinnati, Ohio



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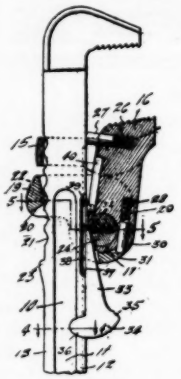
A SHOWER *for* STEAM *and* COLD WATER SUPPLY

For industrial installation where steam is more available than hot water. Furnishes water at the proper temperature instantly.

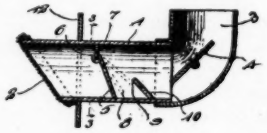
*Write for Bulletin D-10X*

HOFFMANN & BILLINGS MFG. CO.
MILWAUKEE, U. S. A.

at a point off-set longitudinally of the shank from the fulcrum point of said jaw for displacing the jaw from the shank and swinging it on its fulcrum toward the fixed jaw and positively holding the sliding jaw in the adjusted position.



1,397,884

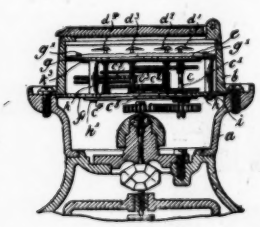


1,397,739.

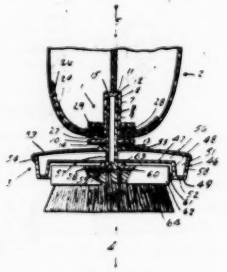
1,397,739. Fresh-Air Valve for Buildings. Malcolm B. Moyer, Montevideo, Minn. The combination with a building having a foul air outlet and provided with a fresh air inlet passages in its sides; of a self-closing damper in each of said inlet passages movable inwardly to open position under the action of incoming air currents, said damper being movable farther inwardly temporarily under stronger currents, and a wall in the passage coacting with said damper in its temporary position for preventing the entrance of air, said damper being self-closable outwardly when the air is calm and also outwardly closable under the action of air currents seeking egress, whereby to compel such currents to travel through said foul air outlet.

**Plumbing Department.**

1,397,534. Register for Water-Meters, etc. William L. Marden, New York, N. Y., assignor to Neptune Meter Company, New York, N. Y., a Corporation of New Jersey. In a register, the combination of a clock train, a supporting frame having spaced supporting plates, one of such plates having counter-sunk recesses and elongated slots, bushings in the seats of the supporting plate, and a locking plate to cover and retain the bushings in their seats and having prongs to enter the slots of the supporting plate and engage the supporting plate.



1,397,524



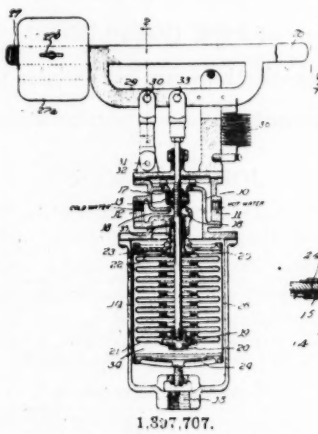
1,398,208

1,398,208. Portable Shower-Bath Apparatus. Leila A. Trial, Los Angeles, Calif. In a portable shower bath apparatus, a bag having a seamless bottom; a valve casing inserted upwardly through the bottom; a nut screwed downwardly upon the valve casing against the bottom, there being perforations in the upper end of the casing; a valve seat at the upper end of the casing above the perforations; and a valve stem screwed upwardly into the valve casing and having an end fitting the valve seat.

1,397,707. Thermostatic Water-Mixer. Morton O. Snediker, Chicago, Ill., assignor to The Powers Regulator Company, Chicago, Ill., a Corporation of Illinois. In a con-

troller, the combination of a casing having inlets for hot and cold fluids, and an outlet for the tempered fluid, a valve for regulating the quantity of each fluid admitted, a stem for said valve, a fluid-pressure thermostat including a diaphragm, said stem being connected to the diaphragm, and mechanical means for selectively exerting pressure against said diaphragm in opposite directions, substantially as described.

1,398,083. Pipe-Coupling. Frank L. Tibbetts, Somerville, Mass., assignor, by mesne assignments, to Elmer S. Stack, Somerville, Mass. A coupling for attaching devices to plates, comprising, in combination a neck for insertion through a hole in the plate substantially larger than said neck, a flange on said neck substantially larger than the hole in the plate and having a kerf oblique to the plane of said flange for threaded engagement with the margin of the plate surrounding said hole to enable the flange to pass through said hole from one side of the plate to the other on a rotary screw motion of said flange, a sleeve threaded to said neck having an end portion adapted to fit in the hole in the plate to center the neck and flange with respect to said hole, a washer on said sleeve for engagement with the side of said plate opposite to said flange, and a nut threaded to said sleeve for holding the margin of the plate surrounding the hole therein tightly between said flange and washer.



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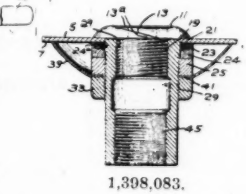

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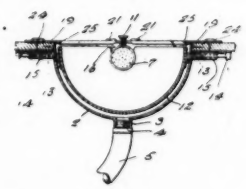

1,398,118.

1,398,118. Cuspidor. Frank Seder, San Francisco, Calif. A cuspidor including a basin let in an opening in a floor surface, having a central outlet, a water conducting pipe, a spray head therefor received in the basin, a valve controlling the passage between the pipe and spray head, an upstanding stem for the valve, spring means influencing the stem to hold the valve in closed position, a bowl in the basin having oppositely extending trunnions which are journaled in openings in the basin and on the bottom of the floor, spring means influencing the trunnions for holding the bowl in one position in the basin, said bowl having its rim notched to receive the neck of the spray head therein and the said bowl normally held in such position by said springs, eyes on the rim of the bowl opposite the notch, segmental protector plates arranged in lapping relation on the floor over the rim of the bowl, spring means normally retaining the protector plates in such relation, and said plates designed to have their edges contacted by the eyes on the bowl when the latter is swung in the basin to emptying position to move the said plates away from each other to permit of such swinging of said bowl.

---

Architect Lester T. Squires, of Seattle, Wash., has completed plans for a two-story grammar school to be erected at the corner of Fifty-second and Main Streets. The building will contain ten rooms, and will cost $95,000.


**BARRETT**

**Sewer, Tide and Back Water Trap**

Always Works

Positive Flush

*Write for details*

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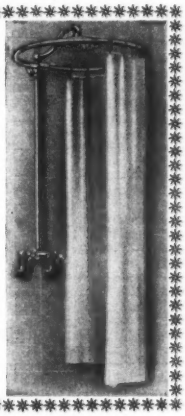
**Hudson Shower**

***No. 100 Complete Two Valve Shower***

Send for Catalog No. 21 illustrating complete line of showers and bath fixtures

**Hudson Brass Works**

**16 Nassau Street, Brooklyn, N. Y.**



**NO ROOF IS SUPERIOR TO ITS FLANGE**

Therefore, some PLUMBER is the father of every leaky roof.

***The Bullard Roof Flange***

is acknowledged as the only PERFECT FLANGE by busy men who have made satisfying installations.

**THE BULLARD SPECIALTY COMPANY, Tiffin, O.**

**ACME DETROIT Drinking Fountain**

**Adjustable to All Pressures**

A strictly sanitary fixture suitable for use in all classes of buildings. The price is right, too.

*We make a line of high grade*

Basin Cocks
Sink Bibbs
Drinking Fountains
Wash Tray Bibbs
Sill Cocks
Boiler Drain Cocks
Solder Nipples

If your jobber hasn't our goods in stock write us, giving his name.

**Acme Brass Works, Detroit, Mich.**

Eastern Representatives: Kessel & Muller, New York
Western Representative: H. E. Crum Jr., 79 W. Monroe St., Chicago, Ill.

# Classified Advertisements

**8 cents for each word including heading and address. Count seven words for keyed address. Minimum $2.00. One inch $4.00. Cash must accompany order. Copy should reach us Tuesday morning.**

## Situations Open

WANTED—BY A RESPONSIBLE heating and ventilating concern in New York City, a capable and accurate heating and ventilating engineer and estimator; one who can take off his quantities accurately on both large and small work. In answering this advertisement please give all information, such as salary expected, experience, etc. Address 455, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17-24

WANTED — SALESMEN FOR IOWA, Illinois and Northwest, to sell brass goods to plumbing trade. Can be sold with other lines. Address 451, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

WANTED — EXPERIENCED PLUMBERS' brass and specialty salesman, qualified to take charge and develop a plumbers' specialty department for a large plumbing supply house in Ohio. Only those having inside and outside experience with strictly first class references need apply. Excellent prospects for the future, for anyone who can qualify. Address 450, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

WANTED — PLUMBER AND FITTER. Steady job to right man. Open shop. State age and experience. Address 446, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

WANTED — EXPERIENCED SALESman well acquainted with jobbers in middle-west territory to sell high grade line of pottery. Must be good worker and able to produce the goods. Give references and all qualifications. Address 453, "Domestic Engineering," Chicago, Ill. 12-17

WANTED—EXPERIENCED SUCCESSful salesman who is acquainted with and has sold jobbers of Plumbing Supplies and Steam Goods in New York City territory; also New England territory; either or both. Good opportunity with established well known standard line. What have you to offer? Address 442, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-10/31

**WANTED—PLUMBING SALESMAN to carry plumbing specialty as a side line, on commission basis. Address 400, "Domestic Engineering," 1900 Prairie Ave., Chicago. 10-8**

WANTED—SALES AGENCY OR salesmen to carry as side line, plumbers' brass specialties for jobbing trade. For all territory. Good opportunity. Economy Brass Mfg. Co., 207 Main St., Cincinnati, Ohio. 12-10-17

WANTED—TWO HIGH CLASS SALESmen to travel in Mississippi for a large Plumbing, Heating and Mill Supply House. Must be thoroughly experienced and well qualified. State age, references and salary expected. Address Key 436, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-10/31

## Situations Wanted

EXECUTIVE

MARRIED MAN, 36 YEARS OLD. Broad gauge, capable, energetic, with excellent record of achievement. Long experience in general management (organization, finance, buying and selling, auditing, credits). Have had ten years experience in plumbing and heating supplies, both manufacturing and jobbing ends. Well acquainted with manufacturers and jobbers and the plumbing and heating trades through central west, inter-mountain west, and the Pacific coast. Best of references. Will be at liberty after Jan. 1, 1922, and solicit confidential correspondence with manufacturers or jobbers interested. Initial salary of less importance than permanent connection offering reasonable opportunity for merited progress. Address 452, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

SITUATION WANTED — YOUNG MAN thoroughly experienced with radiator heating, desires to act as manufacturer's agent in Rochester or Buffalo and vicinity. Have been selling heating trade in Western New York for eight years. Address 449, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

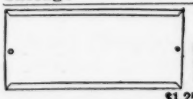
MANUFACTURERS REPRESENTAtive with headquarters in Denver, Colorado, wants several lines of plumbing, heating and mill supply specialties to sell in the Rocky Mountain district. Will not consider buying stock or consignment lines. The market is here for your goods. Give complete details of your proposition, business policies and commission paid, in first letter. Address 448, "Domestic Engineering," 1900 Prairie Ave., Chicago. 12-17

## For Sale

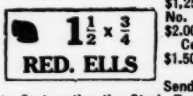
FOR SALE—A FIRST-CLASS PLUMBing and heating business in a large city, less than 100 miles from Chicago. Has good jobbing trade. Good opportunities to right parties. Estimated amount of capital needed to handle same about $4,000. Address 454, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill. 12-17-24

## Miscellaneous

WHO WANTS A PARTNER? A REAL business man with business experience in plumbing and heating. A live young man. Address 447, "Domestic Engineering," 1900 Prairie Ave., Chicago 12-17

**BIN LABEL CARDS**
2x4¼ in.
For water gas and steam.
Over 10,000 different kinds.
$1.25 per 100—$10.00 per 1000
No. 1 Card Holders 2x4½ in.
$2.00 per 100—$17.50 per 1000
Celluloid Covers 2x4¼ in.
$1.50 per 100—$12.50 per 1000
Send for samples.




Send for free booklets. "How to Systematize the Stock Room and Build Bin Racks."
Haddon Bin Label Co., Haddon Heights, N. J.

**Are there 5 and 10 cent pieces lying around your shop in the form of PIPE COUPLINGS? If so, pick them up and advise us amount of your accumulation.**

**JOHN W. MOON**
**1420 Chestnut St. Philadelphia, Pa.**

TIME SHEETS, JOB TICKETS, ESTImating blanks, etc., for plumbers. Small or large lots. Reasonable. Samples and prices free. Prompt service. Louis Fink & Sons, Inc., Laurel Springs, N. J. 7-30 tf

SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf


## Government Proposals

TREASURY DEPARTMENT, SUPERvising Architect's Office, Washington, D. C., Dec. 2, 1921.—Sealed proposals will be opened in this office at 3 p. m., Dec. 23, 1921, for the heating equipment of the boiler house, outside services and connections to building at the United States Public Health Service Hospital at Excelsior Springs, Mo., in accordance with specification and drawings, copies of which may be had at this office or at the office of the Superintendent of Construction at Excelsior Springs, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect. 12-17


**"HAAS" Water Closets**

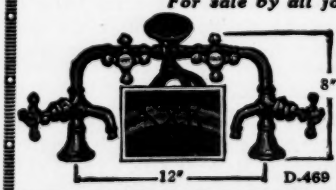
are high grade, insuring maximum service and minimum expense.

**PHILIP HAAS CO., DAYTON, OHIO**

**Something New**

**You have seen our S. & K. "Rainbow" Fixtures that have been so widely advertised in this paper. Of course you have. Well, here is a new one for wall lavatories to fit under low shelf, or medicine cabinet. Designed especially for private residences and apartment buildings. Price $18 each.**

***For sale by all jobbers.***




Manufactured by
**Street & Kent Mfg. Co.**
549 Fulton St.
Chicago, Illinois

# VISUAL INDEX